

# STUDYING THE SERVICE ENCOUNTER

Addressing the Passive User  
Experience in Design



LIN HOU

Collaborative and Industrial Design



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### Abstract

The computer system is playing an increasingly important role in the face-to-face service encounter with the rapid development of technology and strong growth in services. The design focus of Human-computer interaction is traditionally the user who primarily interacts with the interface of the computer system, but the other users who also get affected by the system are not often addressed in research. This scenario typically occurs in the face-to-face service encounter that includes a computer system, where the customer, as the passive user of the system, relies on frontline employee's interaction with the system to get information. Essentially, the passive user experience is a part of the overall customer experience, which focuses on the moment of the service encounter. Therefore, understanding the passive user and involving the passive user experience into design practice can lead to more appealing customer experience.

The main objectives of this thesis are to clarify the aspects that influence the passive user experience in Helsinki Central Library Oodi and to give corresponding proposals for designing an appealing passive user experience. The literature review explicates several notions of service and the definition of the passive user. Based on that, the research is conducted with human-centered methods consisting of mapping the passive user journey, the passive user UX curve, and the semi-structured interview.

The reasons behind the dynamic trends of the UX curves and pain points of the passive user are further summarized by data analysis. The study finds the service outcome, system feedback and transparency, waiting, encouragement, customer characteristics, graphical user interface, and physical layout of products are the aspects that influence the passive user experience. Besides, the recommendations of methodology to study the passive user are provided for later research. The findings from the study delineated the characteristics of the passive user experience, and the proposals enable service suppliers to improve their service encounters from a new perspective.

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**Keywords** User experience, Passive user, Passive user experience, Service encounter, Human-Computer Interaction, Service design, Customer journey mapping

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ABSTRACT

THESIS TITLE

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## KEYWORDS

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## INTRODUCTION

The service encounter has been increasingly changing with the development of technology and the transformation of industrial delivery, and the roles of customer and employee in the service encounter change as well. Meanwhile, customer experience and employee experience are both emphasized by organizations. However, the traditional focus of the human-centered design is always the principal user of the interactive products without paying attention to the other stakeholders.

## 1.1 Customers and Employees in the Service Encounter

Service encounters are happening in every second of our daily life. That could be the payments at checkout counters of supermarkets, orders of fries and burgers at Macdonald and consultants at banks or hospitals. For most of the customers, the first experience with companies or the initial impressions is the interactions with frontline employees of the companies (Bitner, Brown and Meuter, 2000, p. 138). Furthermore, service encounters occur whenever customers interact with companies (Heinonen, 2008, p. 1). The quality of service provider delivering the service naturally influences customer in forming the first impression of the company or brand, and also in retaining.

Customers and employees were the two core actors in the service encounter traditionally, before another actor, the computer system also gets involved in recent decades. Even with the emergence and a popular trend of self-service and online shopping, face-to-face service encounter, with the system supporting, still plays an increasingly important role in its significant economic share. And this article is trying to reveal the interconnections in customer, employee, and system of the service encounter.

Form both sides of contemporary business strategy and the industry-standard in the 21st century, companies were in pursuit of better delivery of products and services to the customers in the service encounter. Customer experience was proposed in such a transition of economy, where the fourth wave in economic progression has been described as "experience," and the new economy was defined as "experience economy" (Jain, Aagja and Bagdare, 2017, p. 642). Moreover, it has been well developed in the academic domain, and especially in the business domain, where companies have made a considerable profit from creating experiences for their customers (Schmitt, 1999, p. 53).

Meanwhile, the companies nowadays emphasize the importance of employee experience in the employees' daily work, not just the customer experience in recent years' economic world. Moreover, the employee experience was clearly defined by different scholars in recent years, especially 2017. When talking about the employee experience, people's first reaction would be HR and management practices, who try to engage the employees for higher employee satisfaction. Nevertheless, the employee experience for this thesis here to study is explicitly defined; it is the experience where the employees work at the front line serving the customers face-to-face, especially collaborate by using a system or internal tool. These employees are the service engineers, sales personnel, the costumer assistants, and reception staff who contact the customers frequently and closely (Urmetzer et al., n.d. p. 4).

## 1.2 The Irresistible Trend of Digitalization in Economic World

Digitalization that companies have been facing or already faced has changed the way to work and the efficiency of working, and it is not a new term anymore. For most of the companies, they have to admit that adopting new technology is a way for an organization to adapt to new situations (Longwe, Lord and Carrillo, 2015, p. 624).

Relying on the excellent user experience of the collaborative system or tool, companies already got many benefits from the outstanding employee experience. A renowned example is Apple, infused sufficiently with new technology not just for their products and services, but also for their internal system. One finding suggests that reduced uptake of technology is a result of the disparity of experiences between large and small-sized companies (Longwe, Lord and Carrillo, 2015, p. 624). The disparity of experiences could be explicated from two dimensions. With a user-centered system, employees could collaborate with other colleagues effectively and seamlessly without the limitation of locations and time. Meanwhile, the well-organized database and interface have significantly accelerated the frontline employees' delivery of services to the customers, which means employees could offer more information to customers more easily, accurately, and effectively than before. The digital employee experience just emerged with the digitalization progression in companies nowadays, which would be another popular academic topic in the future.

Besides the optimization of experience for the employee, digitalization has created new business opportunities for companies.

Customers usually expect and demand flexibility and customization in the service encounter (Bitner, Brown and Meuter, 2000, p. 142); they dislike being limited in rigid rules (Bitner, Brown and Meuter, 2000, p. 142) and low accessibility to the service, especially in today's mobile technology era. They are keen on the services that are specially customized for them. For example, in the ABB lifecycle assessment service, the service engineers travel to customer premises and check the environmental and drive conditions for collecting drive information on the word by using their internal system - LCA tool, before delivering the final reports to their clients.

High flexibility and customization, therefore, call for high uptake of technology. Traditional rigidly-designed customer journey fails to retain their customers, even though it was a success at the beginning. The dynamic nature of the customer journey (Wang, 2015, p. 8) challenges for the flexibility and customization of the services, where technology-based.

The service encounters were reshaped each time when new technology was capitalized. Over past decades, the service encounters have commonly been in a scene where the employees sit or stand face-to-face with the customers while operating the interface. However, the emergence and utilization of tablet nowadays have resulted in a supplement to service encounters, where the employees could stay with customers by one side and operate the interface collaboratively, the obvious example is Genius Bar



service in Apple Stores (see Figure 1).



*Figure 1. Service encounter in the Genius Bar of Apple Store.*

*Source: Author.*

### **1.3 Transformation of Industrial Delivery**

As technology is developed and continuously utilized, industrial delivery is transforming gradually in the economic world. Large companies are gradually emphasizing the extra profit of delivering services to customers, not only the products. That means companies have switched from traditional feature-and-benefits marketing to developing their consumers' experience (Schmitt, 1999, p. 53). In a similar tone, Zeithaml pointed out that many companies adjusted strategies to improve their service, including those whose main offerings are physical products such as vehicles or computers (Zeithaml, Berry and Parasuraman, 1996, p. 31).

The trend in which companies are trying to transform their delivery from traditional products into the corresponding services or their combination is coincidentally happening in the majority of large companies (see Figure 2). Even though this trend has been undergoing for many years, it would keep growing in the future. In turn, with the increasing number of service deliveries, companies' internal systems and interfaces are facing new challenges and opportunities to help employees deliver better service to customers easily, and even to extend the usage boundaries of these systems and interfaces, which means that some functions are open to customers besides employees.



*Figure 2. Industrial delivery of a single car vs. a car with car charging service.*

*Source: Author.*

Therefore, when services could be delivered by more means (i.e., self-service, online service), do face-to-face service encounters still matter?

Some of the customers enjoy self-services because they are empowered to interact with a system where they could take more time to get more information without any interruption by other customers, and they are free without any communication with the employees. These scenes happen in Ikea, where customers could check out by themselves both for paying and choosing delivery service; And also happened in MacDonald, where customers could browse and order the food, pay for the order, and choose the table service or not just by one self-service terminal. Meanwhile, some of the customers enjoy accessing online services remotely, like a remote expert, since they do not need to visit the physical office to queue. Online shopping is one of the best obvious examples, and online flight checking-in is available both for smartphones and other electronic devices, which means passengers could go onboard directly at the airport.

However, face-to-face service encounter remains at the core of the service industry nowadays, even with the challenges of the popularity of novel digital technologies like Artificial Intelligence (AI) (Larivière et al., 2017, p. 238). As mentioned before, service encounters would be reshaped each time when new technology was capitalized, so it is unpredictable whether employee-customer interaction would still be an essential feature of service marketing in the future (Bitner, Brown and Meuter, 2000, p. 141). However, at least, the face-to-face service encounter still counts in recent years. Hence, this article would not discuss how technology and business would affect the nature of service encounter, but discover the unrevealed pain points in face-to-face service encounters nowadays, both from the views of employees and customers.

#### 1.4 Traditional Focus of Human-Centered Design

Since design methods were explored from the 1950s, participatory design, human-centered design, and design thinking (Wikipedia Contributors, 2019) have been at the core of the design discipline since their emergence. The human-centered design had been even defined as a standard in design as an approach of problems solving and innovation:

*“Human-centered design is an approach to interactive systems development that aims to make systems usable and useful by focusing on*

the users, their needs and requirements, and by applying human factors/ergonomics, usability knowledge, and techniques" (ISO 9241-210, 2010).

Design thinking was well applied in practice in IDEO by its pioneer David M. Kelley initially. Moreover, it came to a success as the guide to designing a series of classical products like the first Apple mouse for its clients. Furthermore, design thinking was adopted by other organizations like Frog and IBM design studio rapidly.

However, who is the user in these design methods, and what should be the designers' focus? Traditionally, a user or end-user is someone who interacts directly with a system (Pär, 2001, p. 102). That means, in most of the processes of designing the systems or interfaces, the principal users (or personas) have always taken so much attention of designers, to the extent that other stakeholders are left ignored, no matter what methods are applied, service design or interaction design. Nevertheless, a user-situation must be understood within a broader context rather than just a user and a computer (Pär, 2001, p. 102). In service encounters, systems and interfaces are primarily designed for employees, which makes the customers so passive both in interacting with the systems and receiving the information. That means customers are not sufficiently taken into account when companies design the systems and interfaces which would be used in service encounters, or the customer journey is hastily designed or even ignored.

In the light of traditional design focus, "know user" is an essential process to discover or define the design insights, but it is far from enough. The passive users, like the customers in service encounter when interacting with the system, sometimes are ignored by designers when designing the system for the primary users, and sometimes are gratuitously defined as passive users even if they indeed have special potential needs. In most companies, designers are too much task-oriented. They cannot get access to all information, especially with the intervention of another role, product manager, or be trained to think and design under a holistic view. That situation also results in a seamed and inconsiderate service.

Therefore, to call more attention to the passive user from designers, passive users in the service encounter is the focus discussed in this thesis.

## CHAPTER 2

# OBJECTIVES OF THE THESIS

The thesis is structured with the literature review and a case study of Oodi to answer the three research questions proposed in this chapter.

## 2.1 Research Questions

The main objective of this study is to reveal the influencing aspects of the passive user experience and offer corresponding proposals to design an appealing passive user experience. The notions of the passive user, passive user experience, and other relevant terms will be introduced in the literature review. Moreover, mapping the passive user journey of Oodi and discussing the methodology to study passive users are also the objectives of this study.

The research questions of this thesis are:

1. What is the impact of computer systems used by frontline employees on the passive user experience in face-to-face service encounters?
2. What are the aspects that affect the passive user experience and active user experience in such service encounters?
3. How to design for the passive user experience?

CHAPTER 3

## LITERATURE REVIEW

In this chapter, the study firstly reviews the literature of defining service and finds that the customer and service provider are the two entities of the service who both benefit from the service delivery. In turn, the study explores the definitions of customer experience and employee experience and gives a brief introduction to the service experience. With the background knowledge above, the study reviews the literature of the service encounter and further introduces the three actors of the face-to-face service encounter. Finally, the notions of the passive user and passive user experience are explained.

### 3.1 What is Service?

#### 3.1.1 Literature of defining service

Services have always been enriching our daily life. As defined in economics, where this thesis focuses on, services act as different helpful activities: the supplying of transportation, communication, utilities, and commodities, or the providing of assistance, accommodation, and leisure activities (Qiu, 2014, p. 32). Since the transformation of companies' emphases from goods to delivering more and better services to customers, service has been defined or explicated variously by scholars in the academic area and marketers in the business area. However, still, no one could give a precise definition of service by explicating its mysterious intersection with goods, especially one that is "generally accepted" (Vargo and Lusch, 2004, p. 325).

The service was primarily delineated by "four characteristic differences" from goods - in intangibility, inseparability, heterogeneity, and perishability since service marketing was granted "breaking free" from goods marketing (Vargo and Lusch, 2004, p. 324). This delineation had become the criterion for scholars to define service later, where service was seen distinctively from goods with its typical characteristics.

During the years, approximately 1980-1995, scholars argued over how service should be defined in a subdiscipline of service marketing, and several brief definitions of services were proposed in contrast with goods that people were more familiar with. Services are defined roughly as "activities and process rather than objects" by Solomon et al. (1985) and as processes or performances but not things or objects by Parasuman et al. (1985) and Lovelock (1991), respectively. Other scholars explicated service more specifically almost at the same time. Services are "consumers or producer goods which are mainly intangible and often consumed at the same time they are produced" (Bannock, Baxter and Rees, 1982, p. 372). Harvey (1998, p. 596) further drew a distinction between services and goods- "customer contact and intangibility are the two most important distinguishing features of services."

However, controversy arose when scholars defined services by emphasizing the distinguishing characteristics of services from goods, some scholars argued about if services should be defined in that way. In 2000, Gronroos (2000) noted "service and physical goods should not be kept apart anymore," he further explained that goods marketing and services marketing were converging. In the opinion of Vargo and Lusch (2004, p. 326), "economic exchange is fundamentally about service provision." Based on that perspective, service should be an "inclusive term," but not an exclusionary word to replace goods. Furthermore, instead of integrally delineating the single word: services, Sampson and Froehle (2009, p. 331) built a "Unified Service Theory," which encompasses business processes to define service, "with service processes, the customer provides significant inputs into the production process." In a nutshell, services and goods are intertwined. Part of services is supported by goods, and intangibility is not

the distinctive characteristic for services anymore (ex. virtual products in the digital world are intangible either).

Apart from defining services by characteristics, most scholars defined services commonly by the services production process and delineated services as "activities," "processes" (Vargo and Lusch, 2004, p. 326), and "performance." One of most typical examples was from Grönroos (2007), who defined service as "a process consisting of a series of more or less intangible activities that normally, but not necessarily always, take place in interactions between the customer and service employee and/or physical resources of goods and/or systems of the service provider, which are provided as solutions to customer problems." In Grönroos' definition, he explicated the services production processes as various interactions between customers and service providers. In the latest edition of *Service Marketing*, Wirtz and Lovelock (2016) defined from the non-ownership perspective of services: "Services are economic activities performed by one party to another. Often time-based, these performances bring about desired results to recipients, objects, or other assets." Briefly, Wilson et al. (2008) delineated service as deeds, processes, and performances.

As we all know, goods are pre-produced and stored, but services are produced and consumed simultaneously. Even so, it does not mean that services do not need to be prepared in advance. In the services' production, resources of both customers and service providers like skills, experience, and expertise are applied to achieve the goal. The processes or activities are just the manifestations of the services and imply "applying something and doing something for the benefit of some entity" (Vargo and Lusch, 2004, p. 326). So Vargo and Lusch (2004, p. 326) defined services as "the application of specialized competences (covering knowledge and skills) through deeds, processes and performances for the benefit of another entity or the entity itself."

In this study, the main stakeholders and systems of service encounters and their interconnection would be discussed. Based on that, another detailed definition of services became the final adoption, that is:

"Service is considered as an application of relevant knowledge, skills, and experiences and manifests itself to customers as a service encounter chain that substantively reveals the cocreation of benefits for both service providers and customers" (Qiu, 2014, p. 57).

Services' characteristics have been enriched and expanded further by different scholars to support their theory, i.e., positive marketing effect of the simultaneous service production and consumption processes would help companies retain customers (Grönroos, 1998, p. 323). And in most books about services marketing, the quality of services or what factors affect a good service are commonly discussed and defined, i.e., Qiu (2014, p. 58) pointed out that "the type, order, frequency, timing, time, efficiency, and effectiveness of series of service encounters...determine the quality of services." But the characteristics and influence factors are out of the goal of this part of the literature review, and also this study.



### 3.1.2 Self-service

Another variation of service, self-service, has emerged in recent years with the extensive use of digital technology. Self-service, which provides customers with access to services without any contact with a service employee (Inbar and Tractinsky, 2012, p. 245), enables customers to access the core service easily. Moreover, since its efficiency, self-service has been commonly used in public transportation, fast food stores, banks, cinemas, and so on. Nevertheless, self-service would not be further discussed as the face-to-face service encounter is the focus of this study.

## 3.2 Customer Experience and Employee Experience

### 3.2.1 Defining customer experience

The notion of customer experience originated in an era approximately the 1980s when Holbrook and Hirschman (1982, p. 132) proposed an original view to customers' behavior, and they defined consumption experience as a phenomenon that "directed towards the pursuit of fantasies, feelings, and fun." This view provoked later scholars to perceive customers as "feelers," "thinkers" and "doers" (Addis and Holbrook, 2001, p. 50), rather than "rational decision makers" (Gentile, Spiller and Noci, 2007, p. 396). Customer experience was widely concerned and defined in a context where experiences were primitively emphasized as a new engine for economy progression and experience economy emerged (Jain, Aagja and Bagdare, 2017, p. 642). Moreover, in the literature history of customer experience, scholars commonly defined it from three dimensions as "process" or "phenomenon," "customer response" and "offering" or "value" (Jain, Aagja and Bagdare, 2017, pp. 648-651).

In the years around 2000, experience and customer experience were increasingly interpreted. Offering and value were used mostly. Pine and Gilmore (1998, pp. 97-99) defined experience as "a distinct offering," and one year later, Schmitt (1999, p. 57) noted more clearly "experience provides sensory, emotional, cognitive, behavioral and relational values," even then, the notion is still rough in a holistic view. Until 2004, the customer experience was delineated as a value through co-creation between "a provider and a customer" (Poulsson and Kale, 2004) or within "personalized interactions" (Pralhad and Ramaswamy, 2004). The offering is not an appropriate word to delineate experience or customer experience since it is under the view from organizational perspectives; Value neither, it limits customer experience from being explicated both in its complicated process and context of interactions and the reactions relatively.

When defining customer experience from the perspective of process, scholars emphasized the numerous interactions or touchpoints in service encounters. In 2002, Shaw and Ivens (2002) noted that customer experience is "an interaction between an organization and a customer," and further described it accurately as "a blend of an organization's physical

performance, the senses stimulated and emotions evoked, each intuitively measured against customer expectations across all moments of contact." Palmer (2010, p. 199) further explicated how customers' attitudes formed through a sequence of stimuli, customer experience, "as an integrated framework," begins with "stimuli, mediated by sequencing of the stimuli and the emotional predisposition of the individual, leading to the development of an attitude." In 2016, Lemon and Verhoef (2016, p. 74) understood and conceptualized customer experience from a new perspective by reviewing the customer journey as the "stages of the total customer experience." In consequence, the customer experience was perceived as "a customer's journey with a firm over time during the purchase cycle across multiple touch points," they further explicated customer experience as an "iterative" and "dynamic process" that flows from prepurchase, to purchase and to postpurchase (Lemon and Verhoef, 2016, pp. 74-76). By defining customer experience by the process, it helps scholars understand the physical context, sensory stimuli, and multiple touchpoints inside customer experience, and understand how customers' impression forms under a holistic view. Also, it helps organizations confront the increasingly complex customer journey, and especially benefit their customer management.

Scholars stood by the customers and emphasized customers' emotional "response" at an early time. Carbone and Haeckel (1994) noted customer experience is the "aggregate and cumulative customer perception" in the processes of consuming goods or services. Gentile et al. (2007) gave a more specific definition to delineated that aggregated customer perception. By reviewing previous literature and history holistically of customer experience, Gentile et al. (2007, p. 397) explicated it "originates from a set of interactions between a customer and a product, a company, or part of its organization" where customers are involved at a rational, emotional, sensorial, physical and spiritual level. In 2009, Verhoef et al. (2009, p. 32) reinterpreted customer experience with the similar determiners with Gentile et al. (2007) that it "involves cognitive, affective, emotional, social and physical responses to the retailers," and they mentioned the creation of that experience is not totally under of the retailers' control. Not surprisingly, some scholars took that situation into account as well and gave clear definitions to support Verhoef's (2009) thoughts. Customer experience was conceptualized as a subjective response to "direct or indirect" encounters with organizations by Meyer and Schwager (2007, p. 118), Lemke et al. (2010, p. 848). Meyer and Schwager (2007, p. 118) further explained direct encounters are initiated by the customers usually, but indirect encounters occur coincidentally with the "representation of a company's products, services, or brands." As the literature of customer experience was enriched, scholars could define it under a more holistic view. Johnston and Kong (2011, p. 8) defined it as "personal interpretation of the service process and their interaction and involvement with it during their journey or flow through a series of touchpoints, and how those things make the customers feel." In Johnston and Kong's (2011) definition, the customer experience was delineated as the "interpretation" of a dynamic process where the emotions are accumulated by a battery of stimuli at different

touchpoints. In 2016, Lemon and Verhoef (2016, p. 74) summarized the previous literature of customer experience as “a multidimensional construct focusing on a customer’s cognitive, emotional, behavioral, sensorial, and social responses to a firm’s offerings during the customer’s entire purchase journey.”

In this study, customer responses are emphasized rather than the process or value, and the definition of this study is based on Lemon and Verhoef’s (2016) definition, but several words should be modified. The “firm” should be changed into organizations because the services are also offered by public entities, NGOs, and governments. And “purchase” should be deleted for a similar reason. Therefore, the definition of customer experience for this study is:

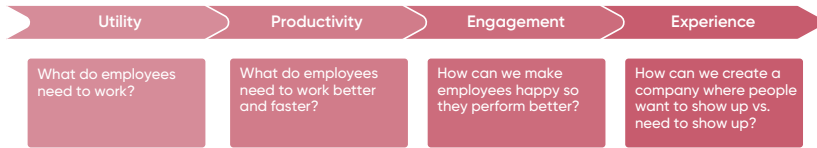
**Customer experience is a multidimensional construct focusing on customers’ cognitive, emotional, behavioral, sensorial, and social responses to organizations’ offerings during the customers’ entire journey (Lemon and Verhoef, 2016, p. 71).**

In the following chapters of this article, customers would be explicated as a key role and also a special role in service encounters, and its customer experience will be evaluated.

### 3.2.2 Defining employee experience

Compared with customer experience, employee experience is a buzzword both in the academic study of experience design and practical organization restructuring. It emerged in an era where the digital economy arose significantly and increasingly fast and still definitely keep being a megatrend in the future economy world. The blowout of new digital technology has changed the way how employees work and how organizations engage their employees. Besides that, as the key role of organizations, employees work for and co-create their organizations, but simultaneously, they get served by organizations. Meanwhile, millennials are steadily becoming the majority of the workforce; they are born in a crazy era of consumption and an ever-changing digital world, this is the situation that human resource management departments cannot ignore. So, all internal factors or external context are just proving one challenge or opportunity: it is time for organizations to restructure themselves for the superior employee experience, and employee engagement is far from enough.

Distinct from customer experience, which has been studied for decades, employee experience is emphasized by marketers and defined by scholars just in recent years, and there is still no precise definition. Morgan (2017, p. 4) explicated the evolution process of employee experience from the utility, to productivity, to engagement to experience (see Figure 3), it is a process where employees personal perception is steadily put into the center. And compared with customer engagement, employee experience is “the long-term redesign of the organizations” (Morgan, 2017, p. 6).



*Figure 3. Evolution of employee experience.  
Source: Adapted from Morgan (2017, p. 4).*

Employee experience has similar characteristics to customer experience. It is holistic, subjective, and dynamic. Mostly, employee experience is characterized as the perception of the relationship or interactions between employees and organizations. For example, the annual report from Oracle (2014) defined it as “the sum of all experiences an employee has with an employer.” This definition is too vague, even if with another part that further explains it is “over the duration of their relationship with that employer.” Similarly, Maylett and Wride (2017) also delineated employee experience as “the sum of perceptions [that] employees have about their interactions with the organization in which they work,” they thought employee experience should be “broader,” with distinction from the “Talent Management,” “Human Resources Development,” and “Employee Engagement.” These definitions are clear and under a holistic view, but they did not make explicit what are the various aspects of perceptions and how the interactions occur, it is broader and holistic, but also too vague, Morgan (2017, p. 7) even think they are meaningless definitions without any contexts or directions to delineate the employee experience. Therefore, Morgan (2017, p. 8) proposed another framework to define employee experience as “the intersection of employee expectations, needs, and wants and the organizational design of those expectations, needs, and wants.” Morgan (2017, p. 8) clarified why this definition is possible is because the employee takes the initiative to shape the employee experience. However, his definition makes it easy to understand where employee experience is under a theoretical level, but it is so conceptual. While, Dery and Sebastian (2017) take a totally different view from the previous one to define employee experience as “the work complexity and behavioral norms that influence employees’ ability to create value,” in comparison with employee well-being.

Even if the definitions of employee experience are so distinct from each other, the scholars behind them are actually enriching this term from various perspectives. In this study, two definitions from Plaskoff (2017) and Larivière (2017) are combined to characterize a detailed employee experience:

Employee experience can be defined as the employee’s cognitive, emotional, behavioral, sensorial, and social perceptions of the relationship with his/her employing organization derived from all the encounters at touchpoints along the employee’s journey (Plaskoff, 2017, p. 137; Larivière et al., 2017, p. 242).

Employee experience is so important, even if this section does not recite those viewpoints so much. For better employee engagement inside the organizations, organizations “must understand each employee more deeply and co-design experiences with them that demonstrate care” (Plaskoff, 2017, p. 136). For further potential economic benefit, when organizations “creates a top-notch employee experience, the likelihood of a superior customer experience increases exponentially” (Maylett and Wride, 2017).

In the following chapters, the employee experience in service encounters, particularly when front-line employees are commuting with customers and interacting with the interfaces, is the core to study and evaluate in addition to the other touchpoints in the entire employee journey.

### **3.2.3 Customer and employee: new roles in the service encounter**

As what has been discussed about the irresistible trends of digitization within the organizations and transformation of service delivery in the economic world, the service encounter has been reshaped by these dynamic megatrends. Simultaneously, it took place at the switch of customer and employee roles.

The transformation of customer and employee roles does not mean that traditional roles have been completely replaced, traditional customer roles (actual receiver of service), and traditional employee roles (actual provider of service) still commonly exist today (Larivière et al., 2017, p. 241). Larivière et al. (2017, pp. 241-242) gave new roles to customers and employees as an enabler, innovator, coordinator, or differentiator, respectively.

In new employee roles, as an enabler, the employee enables the excellent performance of both customer and technology; As an innovator, the employee gets first-hand customers’ responses for service improvement; As a coordinator, the employee “harmonize and manage the interdependencies” in various encounters “across multiple channels;” As a differentiator, employee’s discrepant “human touch” differentiates organization’s brand from others (Larivière et al., 2017, p. 241).

In new customer roles, as an enabler, the customer is active co-creator in service encounter; As an innovator, the customer offers “valuable feedback and ideas” by interacting with the employee or the interface; As a coordinator, the customer selects and brings different parties together; As a differentiator, the customer is getting more control over the service encounter which makes a significant distinction from the standard service encounter (Larivière et al., 2017, pp. 241-242).

Even if Larivière et al. (2017) have explicated the new customer and employee roles, this study still needs to research and explore the practical new roles of nowadays capable customer and front-line employee in the service encounter, and what are the obstacles and opportunities under their new roles.

### 3.3 Service Experience

#### 3.3.1 Service experience in the service encounter

This study has discussed in detail what service is in the first section. In contrast, service experience has not been defined, and people could read this term in some service marketing articles and question what it is, how different it is from the customer experience? So, before going into the service encounter, this section will give a short explanation of service experience.

As we have mentioned, service was primarily defined by distinguishing itself from the goods. Similarly, service experience primarily emphasized the consumption of services compared with the consumption of goods (Jain, Aagja and Bagdare, 2017, p. 646). Quite many scholars have defined service experience from different perspectives, and for this study, the service experience is delineated by using the definition from Jaakkola et al. (2015) as:

“Service experience is an actor’s subjective response to or interpretation of the elements of the service, emerging during the process of purchase and/or use, or through imagination or memory” (Jaakkola et al., 2015, p. 186).

#### 3.3.2 The difference between service experience and customer experience

Service experience is similar to customer experience since they both focus on the customer responses to or perception of the touchpoints in the service. While service experience is broader over customer experience, the core difference between that two terms is that service experience occurs in a multi-stakeholder network (Jain, Aagja and Bagdare, 2017, p. 649). Besides customers, service provider representatives could also be the actors of service experience (Jain, Aagja and Bagdare, 2017, p. 649). Hence, based on the context of service encounters between customers and front-line employees in this study, customer experience and employee experience are both within the scope of service experience.

### 3.4 Service Encounters

#### 3.4.1 Definition of service encounter and its literature shifts

Service encounters are frequently seen as the service from the customer's point of view (Bitner, Brown and Meuter, 2000, p. 139). As service economy took an increasing share in all industries, organizations got down to managing how to satisfy customers in service encounters, and only in the years around 1993, managers realized that service encounters were not random, but could be treated systematically (Bitran and Lojo, 1993, p. 385). Definitions of service encounters are various in previous works, and still keep evolving. In an early year, Shostack (1985) explicated service encounters as the moments in which customers interact with a concrete service interface, that holistic definition means service encounters also encompass the other elements, such as the physical surroundings and self-service technology, besides interpersonal elements which are seen as the core of service encounter. Conversely, the later research into service encounters commonly focused on interpersonal dynamics of the face-to-face encounters (Inbar and Tractinsky, 2012, p. 245) since Surprenant and Solomon (1987, p. 87) defined it as "the dyadic interaction between a customer and a service provider." They further emphasized that the nature of that dyadic interaction was the "critical determinant" of customer satisfaction with service, and the person, service provider, took enormous responsibility for delivering the personality of the service offering to customers (Surprenant and Solomon, 1987, p. 87).

Similarly, Voorhees et al. (2017, p. 270) further defined service encounters in detail as "any discrete interaction between the customer and the service provider relevant to a core service offering, including the interaction involving provision of the core service offering itself." This definition characterizes service encounters as discrete moments in which customers interact with the core service offering directly or indirectly. However, the customer impressions and satisfaction with the service provider are cumulative, which means service experience is continuous (Voorhees et al., 2017, p. 270).

Literature always changes with the economic context shifts. Bitner et al. (2000, p. 139) noted service encounter, also the moment of truth, was "the moment of interaction between a customer and a firm," and in which customers established "indelible impressions" of the firm. He pointed out in the early year of 2000 that service encounters were getting out of the mire of "low-tech, high-touch" with the increasing utilization of technology (Bitner et al., 2000, p. 139). He even argued that virtually all of the previous service research focused on the interpersonal dynamics of service encounters, and another critical role, technology, had been ignored (Bitner et al., 2000, p. 141). Besides technology, many other elements are changing service encounters. Larivière et al. (2017, p. 239) noted service encounters are nowadays enabled by complex service systems, by this context, they proposed "service encounter 2.0," that encompasses "any customer-company interaction that results from a service system that

is comprised of interrelated technologies (either company-or customer-owned), human actors (employees and customers), physical/digital environments and company/customer processes." The definition precisely summarizes all the possible elements nowadays that can make a difference in service encounters. On the other hand, it explains why technology is still increasingly changing the service encounters since besides upgrading the company, digital technology is empowering the customer, which means the customer could be and be enabled to be more active in the service encounters.

Much research has emphasized the crucial role of service encounters to improve customer satisfaction, in turn for business success. Bitner et al. (2000, p. 139) note that service encounters significantly "affect crucial outcome such as customer satisfaction, intention to repurchase, word-of-mouth communications, and loyalty." More specifically, it is during the full series of service encounters that customers make judgments of a firm's quality, and customers' overall satisfaction and intention of retaining are cumulated by each encounter (Voorhees et al., 2017, p. 269). Therefore, for organizations that rely on the interest of service offering, "one central goal in the pursuit of 'zero defects' in service is to work toward 100% flawless performance in service encounters" (Bitner, Booms and Mohr, 1994, p. 95). Moreover, the quality of service encounters has been considered as a crucial strategic competitive weapon for organizations to win (Mattila and Enz, 2002, p. 268).

### **3.4.2 Traditional face-to-face service encounter**

Customer and front-line employees are always the two core entities in service encounters since the advent of commerce. For delivering better service, front-line employees are even trained, standardized since they are the mediators and representatives of the company, in turn, they are so important that the way they serve customers directly impacts the customers' perception and impression of the company.

The computer system was the third entity of service encounter since computers were commonly used on the front line, leading to an update of traditional face-to-face service encounter that is still commonly used in today's economic world (Inbar and Tractinsky, 2012, p. 246). In other words, the increasingly improved collaboration between customer, employee, and system has significantly altered the service encounter, in which employee interacts directly with the system to serve the customer by face-to-face communication as a mediator or representative of a company. The figure 4 illustrates how these three entities collaborate in the face-to-face service encounter.



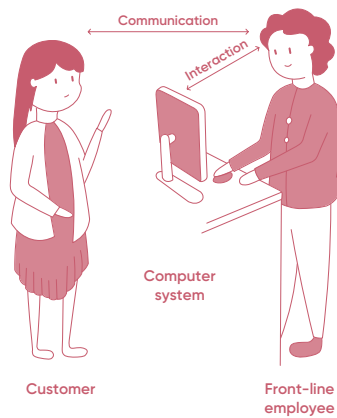


Figure 4. The customer, frontline employee, and computer system collaborate in the face-to-face service encounter.

Source: Adapted from Inbar and Tractinsky (2012, p. 246).

### 3.5 Passive User and Passive User Experience

#### 3.5.1 Passive user

In the illustration of the traditional face-to-face service encounter, customer relies on employee's performance, communication and interpretation to interact with the information system. In many service encounters of business context, customers have no control or limited control over the system. Even if they are the service consumers whose experience is concerned the most by the company, they are still passive users of information in the use-situation. These scenarios occur every day when customers consult the bank clerk, get information at info desks, ask the librarian about books, consult the physician about medical problems, and so on.

In the literature of the passive user, the passive user was also discussed and defined as the secondary user by Alsos and Svanæs (2011), and as the incidental user by Inbar and Tractinsky (2009) respectively. These two studies are two main sources of later literature on the passive user.

As was addressed in the section above of traditional focus users of human-centered design, a user traditionally is someone directly interacting with a system (Ågerfalk, 2001, p. 102). While, passive user, or incidental user named by Inbar and Tractinsky (2012, p. 246), is someone who is involved in the exchange of information with a system but not the principal user of it when receiving service, and is affected to various degrees by active users who directly interact with the system (Inbar and Tractinsky, 2009, p. 56). Inbar and Tractinsky (2009, pp. 56-57) further mentioned a major characteristic of the passive user: "interest in the information with limited (or no) control over the interaction with the system," also, it is the main characteristic of the customer in the traditional face-to-face service encounter. The definition proposed by Inbar and Tractinsky (2012) notes two characteristics of the passive user, that is the exchange of information and the non-principal user of the system. However, the definition does not explain how passive user gets the information. To delineate more clearly, Inbar and Tractinsky proposed and explained several aspects that influence passive usage - interest, cooperation, interaction, and control, setting in their framework for passive usage (Inbar and Tractinsky, 2009, pp. 57-58).

In another literature source of passive user, Alsos and Svanæs (2011, p. 85) defined it, or the secondary user, as the user who "use the system through an intermediary," and it is more easily understandable to delineate passive user by explaining the process of the passive user getting information.

Based on Alsos and Svanæs's (2011) explanation of characteristics of the passive user, more specifically, the passive user in this study is:

**The user, with no control or limited control of the system, interacts with or relies on the active user who interacts directly with the system to get information (Alsos and Svanæs, 2011, p. 85).**

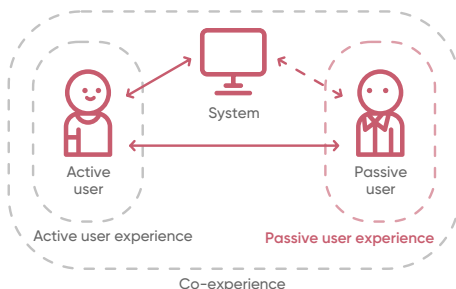
The notion of the passive user just began to be discussed in the recent

decade. In its literature, scholars used similar pairs of terms to delineate the meta-roles of customer and employee in service encounter: “passive user” with “active user,” “incidental user” with “principle user,” and “secondary user” with “primary user.” In this study, “passive user” with “active user” is chosen since the customers are the core actor of the service encounter. They are the ones who are specially served by the employees and system, and the ones whose perception and feedback are significantly concerned by the company, so “passive user” is better both to describe the underlying characteristic of the customer and to avoid the misunderstanding that customer is unimportant in the service encounter.

### 3.5.2 Passive user experience

It is the truth that customer is usually the passive user of the system in the service encounter. However, passive user experience does not mean customer experience, since customer experience is the overall cognitive response to the company’s offering. However, passive user experience focuses on the subtle relationship between the customer and the system. Borrowing a book from a library is one daily scenario. However, it still involves a complicated customer journey and even more complex for the readers when borrowing for the first time, the customer experience of that is an overall perception of different stages for getting a book, from readers being interested in some books, considering which ones to choose, trying to acquire the books, to finally returning. However, passive user experience is among several touchpoints of the whole journey, such as when the reader asks the librarian to search the information of books or learn how to use the check-out machine with the guidance of the librarian.

Alsos and Svanæs (2011) were the first scholars to define the passive user experience. They defined it as the part of passive user’s overall experience, which is attributed to the active user’s interaction with the system or to interaction of the passive user with the system with the active user as a mediator (Alsos and Svanæs, 2011, p. 86), and in most usage scenarios, passive user experience is more influenced by the active user’s interaction with the system.



*Figure 5. The figure shows the connection within passive user experience, active user experience, and co-experience. Co-experience is the blend of user experience of both system and social interaction (Battarbee, 2003, p. 109). Source: Extended from Alsos and Svanæs (2011, p. 86).*

### 3.6 Methods to Study Passive User Experience

Passive user experience is a novel concept in comparison with the long history of the service encounter, Inbar and Tractinsky's (2009) study on the incidental user, and Alsos and Svanæs's (2011) study on the secondary user are the only two related sources could be found until now. Even with the similar definitions of passive users, the two studies conducted different user study methods.

Inbar and Tractinsky (2009) analyzed the influencing aspects by proposing two mathematical models, in which the relationship of the passive users' interaction level of input and output, and the level of gathered information and control were discussed. The method they used was the theoretical analysis with some examples. However, Alsos and Svanæs's (2011) study method was based on a retrospective case analysis of the usability evaluation of hospitals' mobile systems. In their evaluation, several tasks and interviews were conducted to the physicians and patients with the video record.

The theoretical analysis could be an excellent method only if the researchers have had a good grasp of several cases or examples. The usability evaluation is one straightforward method, but getting permission to evaluate the system is a challenge. There is no literature about how to study passive users, and Alsos and Svanæs's (2011) usability evaluation is a previous retrospective, so the methodology to study passive users has been rarely mentioned.

## CHAPTER 4

# METHODOLOGY

Since little literature is found on how to study the passive user, the study develops several methods from the service design and user experience evaluation to create a methodology that consists of mapping the passive user journey, UX curve, and semi-structured interview.

#### 4.1 Mapping the Passive User Journey as Early Research

In service design, the customer journey is usually mapped after the user study, such as the interviews with several stakeholders. However, there are two risks in that sequence. First, understanding the customer journey via qualitative user study methods is too late to leave sufficient time for researchers to explore customers' stories deeply, especially when there are only a few participants. Another risk is that it would lead to a lack of evaluation of the customer journey. Also, these risks exist in mapping the passive user journey. In this study, mapping the passive user journey is the main objective in early research, since it is the cornerstone for following user study.

The qualitative user study is not the only way to understand the passive user journey, customers' roadmap of the service, expert meeting with employees, observations, and to experience the service encounter in person are all the feasible methods to have a basic grasp of the passive user journey. The shortcoming of mapping early is that researchers could only get a draft journey, but the journey could be iterated by other methods in early research and be evaluated further during the qualitative user study.

#### 4.2 UX Curve and Semi-structured Interview as the Cores of User Study

Service design methods are generally used to evaluate the customer experience in exploring customer typology, customers' pain points, and their journeys of the service. Essentially, the passive user experience is a microcosm of customer experience. So, the methodology of studying passive users is designed with service design thinking.

The interview is always an efficient method to find customers' stories and the reasons behind their pains, especially the semi-structured interview, in which researchers could ask based on their test plan and have the flexibility to change. However, with prepared questions or further discussion, the interview is at a disadvantage for its low ability to involve all possible activities under the passive user journey. Besides, the service encounter is such a short moment that it could be a challenge for customers to share their subtle experiences. So, the interview is not enough for the research, while the UX curve is a method for evaluating customer experience over the journey.

Academically, the UX curve method is to evaluate the long-term customer experience proposed by Kujala et al. (2011). Nevertheless, it does not mean the method is inappropriate to study passive users since the UX curve has the superiority in evaluating customers' dynamic feelings, and helping customers to recall their stories before the interview. The UX curve in this study would follow Kujala et al. (2011) in their procedures and the way of data analysis. The main task of the UX curve is to ask customers to draw emotion curves and explain why they have such feelings. However, an

empty drawing template would make participants confused, and offering the passive user journey and possible activities could help participants understand and recall their experience better.

So, the methodology of the study consists of mapping the passive user journey as early research, the UX curve and the semi-structured interview as the cores of user study.

## CHAPTER 5

# MAPPING THE PASSIVE USER JOURNEY OF OODI

The chapter starts with an introduction to the service of Oodi and explaining the reasons for selecting Oodi as the case study by the field research. The notion of the passive user journey is proposed, and the relationship between the passive user journey and customer journey is explicated. As the early research of the case, the passive user journey is then mapped, evaluated, and visualized.



## 5.1 Introduction to the Service of Oodi

The Helsinki Central Library Oodi is a new urban public library in Finland and is open to all from December 2018. More like a living lab, Oodi utilized the service design method to polish its service and interior planning from its start. And because of its collaborative way to design the library, Oodi was awarded as the best new public library in the world in August 2019.

As a newly built public library, Oodi utilized digital technology to support its digital services. Premises reservation tool was designed and piloted to allow the residents to reserve the premises on its electronic system, and new info displays were appropriately placed (Helsinki Central Library Oodi, 2015). Besides the conventional services of lending and returning, workshop services, studying and working services, music services, and gaming services fulfill most needs of the residents.

To summarize, Oodi is an inclusive public community with the tradition and novelties, with conventional function and digital technology infusion. Meanwhile, traditional face-to-face service encounters are all around its three floors. Even if utilizing digital technology broadly, without changing service encounters into cold touchable screens, Oodi sets up many info desks for its diverse customer journeys and customers' varied need. Customers could always get help just by their side. In fact, service encounters are significant and decisive actors, along with self-services and other services of Oodi. Even if the media or customers are obsessed with the fancy environment and novel services, service encounters are the core of all to offer a fluent and seamless experience to customers. So, Oodi is an ideal case to study the passive user in traditional face-to-face service encounters, to explore how traditional service encounters changed with the infusion of new digital technology.

## 5.2 Field Research

The topic of passive users has been decided before the cases selecting. Going to the field is always the most efficient way to check where there are appropriate service encounters to study passive users. Besides Oodi, some other service encounters have been observed, such as Helsinki Music Center, Helsinki Central railway station, McDonald's, and Espresso house. However, Oodi is the most feasible one because of its excellent service and easier access to interviewees, especially the employees.

The service encounters on the first floor are mainly intended to serve customers on general information of the library; also, they are skilled in offering information or giving solutions to customers relevant to all library services. The ones on the second floor are mainly to serve the customers who have questions of using the workshop service, study and working service, and gaming service. The service encounters on the third floor are in the layout of a circle or semi-circle, where employees are always ready to offer information on books or answer all relevant questions on book

borrowing.

The service encounters of book borrowing are typical traditional face-to-face service encounters, where customers ask about books, employees search on the system, and offer the information by communication. Passive user experience occurs there since customers have limited control of the computers and rely on the employees to interact with the information system of the library. Another advantage of the third floor's encounters is that they involve more complicated tasks that are more time-consuming than the others. Based on these characteristics, the service encounters of book borrowing are chosen to study the passive user for this thesis.



*Figure 6 & 7. The service encounters in the lobby of Oodi.  
Source: Author.*



*Figure 8 & 9. The service encounters of book borrowing on the third floor of Oodi.  
Source: Author.*

## 5.3 Mapping Passive User Journey

### 5.3.1 Defining passive user journey

In terms of service design thinking, to study the user experience, it is essential to understand and depict the user journey beforehand, it is the same with studying passive user experience. Besides, the journey of the active user should also be taken into consideration since the passive user highly relies on the active user's reaction and performance, and there are quite many interactions and collaboration between these two journeys.

However, no literature has been found about the passive user journey and active user journey. To better study every single moment of the passive user experiencing the service, this thesis proposes the passive user journey and active user journey here firstly and utilize them to delineate the service encounter in detail as a short journey at one touchpoint of the overall user journey of the customer (passive user) and employee (active user). As what has been clarified about the difference between passive user experience and the customer experience in the chapter above, the passive user journey could be explained in the same way in contrast to the customer journey, that is:

The passive user journey focuses on the slices of moments in the service encounter as a single touchpoint of the overall customer journey.

The active user journey could be explained in the same way with the definition above.

The passive user journey occurs when the customer interacts with the different devices of the information system indirectly by relying on the employee's control of the system and his interpretation, or directly with the guidance of the employee (see figure 10). In the service of book borrowing in Oodi, the passive user journey mainly happens when the customer asks for information on books at the info desk. However, other moments should not be ignored even if they rarely appear, and they are when the customer is guided or taught to use the check-out machine, books searching system, and the books returning machine. So, the quantity of passive user journey and position of its touchpoint lie in the various dynamic customer journey, and in this study, the moments when the customer asking employee information of books are mainly concerned.



*Figure 10. The passive user journey occurs at different points of the customer journey.*

*Source: Author.*

### 5.3.2 Mapping passive user journey

Usually, the user journey was mapped after several qualitative interviews have been taken for a basic grasp of user scenarios. As has been discussed in the chapter of Methodology, the passive user journey would be utilized as questionnaires for the experience curve during the qualitative research in this study; besides, it is necessary to understand the journey and map it beforehand. Actually, the service encounter of borrowing is not a complicated process, so the core of mapping the passive user journey is to list every single moment or activity as detailed as possible.

#### 1. Understanding and Mapping the Journey

The most efficient way is to experience the service encounter personally. I visited Oodi, experienced the service encounter by asking one book, and observed the service encounter for one afternoon. After initial field experience of the service encounter, some activities of customer and employee were listed, and then the passive user journey was mapped with five general stages: understanding, checking, conveying information, placing the order, and picking up. The activities of the passive user (customer) and active user (employee) were linked under the five stages to delineate the slices of moments in this service encounter (see figure 11). The shortcoming of this initial version is that it is rigid and rough. Just one scenario is involved, and even in that, no one could follow these activities by a hundred percent in daily usage. However, the aim of mapping here is to involve all possible activities for the main scenario as much as possible, and it is enough for a basic understanding of the service encounter. Furthermore, the passive user journey should remain the possibility to be modified and updated during further interviews and evaluations.

#### 2. Evaluating the Journey

Keeping the passive user journey modifiable does not mean no evaluation is needed. The journey was then presented and explained in an expert interview with the leader of the customer experience team and one librarian of Oodi.

The two employees firstly introduced the current situation of service encounters in Oodi. As they said, the ideas and principles of the service encounters of book borrowing are similar to the other libraries in Helsinki by sharing the same information system. However, service encounters are challenged by a considerable number of visitors every day. Then they pointed out several mistakes about the passive user journey. For example, the service encounters usually start with customers' asking, but not the employee' greeting; And sometimes the employee would accompany the customer to the shelves besides just telling the shelves' position, especially when the customers are the elderly; The system of the service encounter should be just the computer since the pos machine is rarely used.

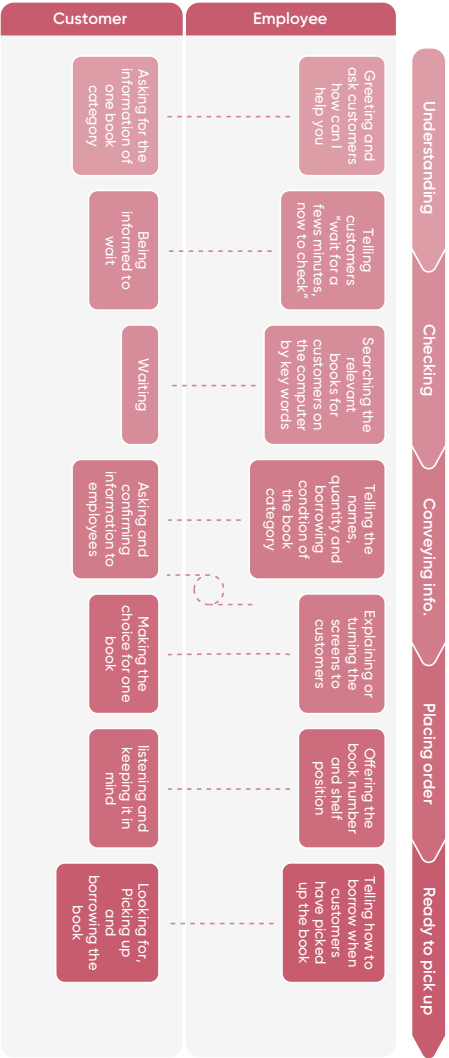


Figure 11. The initial version of the passive user journey.  
Source: Author.

### 3. *Visualizing the Passive User Journey*

The feedback and newly shared information were utilized to iterate the passive user journey afterward. To show the overall logic of the passive user interacting with the information system, I added another actor of the traditional service encounter - system into the map. Moreover, connections between each activity were mapped for the same purpose. The final version of the passive user journey was visualized as two sides of the desk, where the passive user is in the front stage and system is in the backstage, the active user is the one mediates between these two parts. The arrows between the passive user, active use, and system indicate the direct interaction or indirect interaction within these three. And now, the map involves both all possible user scenarios and the overall logic in the ecology of service encounters(see figure 12).

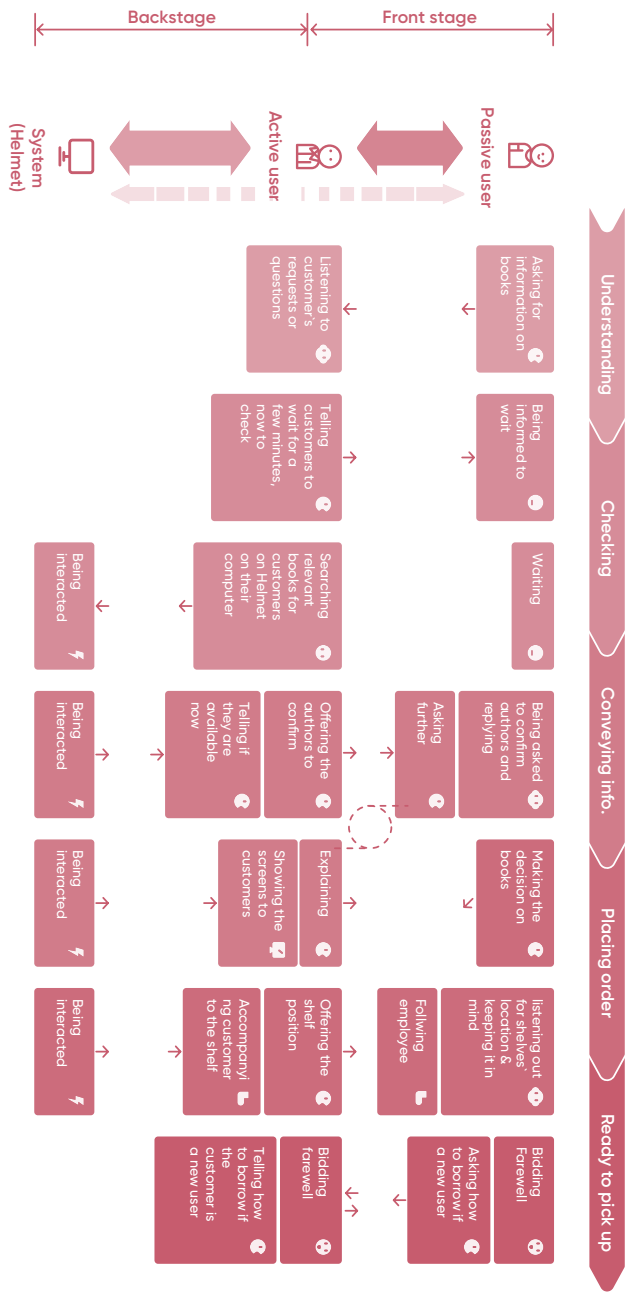


Figure 12. The passive user journey after evaluation.  
Source: Author.

CHAPTER 6

## QUALITATIVE RESEARCH INTO PASSIVE USER AND ACTIVE USER

In this chapter, user study methods are utilized to get customers' stories and pains when they interact with the information system through the service encounter in Oodi. With that aim, the UX curve is used to evaluate the detailed dynamic passive user experience at the moment in the service encounter. The study then conducts semi-structured interviews with passive users based on the understanding of passive users from the UX curve. The active user is also taken into the research by the semi-structured interviews. The results of the qualitative research are reported with the comments, stories, and scenarios of passive users and active users.



## 6.1 Aim

In Design Thinking, a good designer needs to engage himself in the user story with as much empathy as possible. For seamless research with that principle, the expert interview has been taken for a basic understanding of service encounters in Oodi, and the passive user journey has been mapped for a general passive user scenario. The user study as following is to explore how the real users of Oodi interact with the information system, the story behind their daily borrowing, and the slices of moments in service encounters at the info desks, to unravel the secrets in why and how they are passive. The experience curve was utilized to evaluate every activity by customers' emotions, and it helped to recall their stories when they went through the passive user journey step by step before the qualitative interviews. The qualitative interview was used for understanding the individual passive user scenario and finding their pain points in the service encounters. Besides the passive user, the active user was also interviewed to explore what are the obstacles to serving the passive user.

## 6.2 User Study Methods and Materials

### 6.2.1 UX curve

The UX curve is an excellent method to get subtle dynamic responses from passive users in their actives under the five stages of service encounters, and this is why I mapped the passive user journey beforehand. Even if the UX curve method in this study is different from the standard one in the dimension of curve drawing, it does not affect getting quality data if this study follows the similar principles of the method conducting and data analyzing to the standard UX curve method.

The curve drawing template was visualized as two parts, where the simplified passive user journey is at the top, and the curve drawing graph is underneath. In the curve drawing graph, the horizontal axis divides the graph into two opposing parts, "happy" emotions upper part and "sad" emotions lower part, in turn, the vertical axis represents the actual inclination of passive users' feelings in one activity with two opposing ends. The horizontal axis represents the progress of passive users in service encounters. For a more natural way to draw the curve, feelings under each activity are used as the nodes of drawing. Hence, five emojis were illustrated and printed to show five emotion degrees of passive users in their activates as disappointed, unhappy, no-feeling, happy, and excited. And interviewees would be asked to stick them under the activities on the template before they draw. Besides, it is available for interviewees to modify the activities or the journey based on their personal scenarios when they are explaining their choices of emojis for corresponding activates.

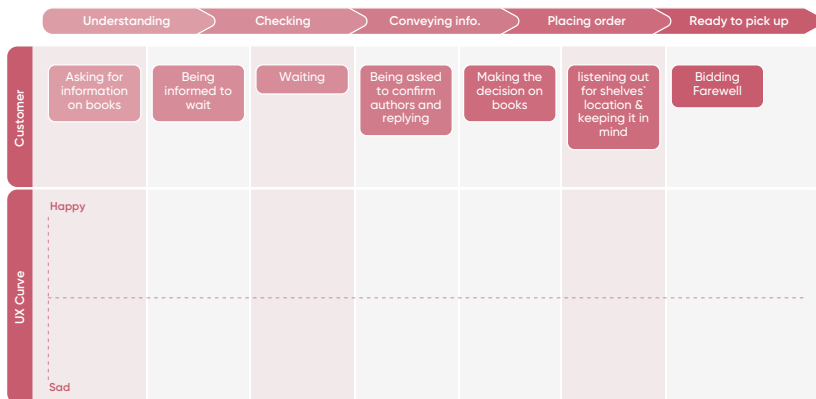


Figure 13. The UX Curves drawing template.

Source: Author.

## 6.2.2 Semi-structured interviews

As another important part of the research, semi-structured interviews are utilized to get the passive users' story and reveal their underlying pain points in service encounters of book borrowing. Conducting semi-structured interviews means the possibility to ask further based on interviewees' reply or even change the plan of asking. As has been explained, understanding the active users also helps to delineate the passive users' scenarios from another angle; Moreover, active users are a core of the service encounter, their experience should also be taken into consideration, and this is the reason why this thesis also defines the employee experience in the literature review chapter.

The interview questions of both the passive user and active user are structured into two parts.

In the interview questions for passive users, part 1 involves greetings with four simple questions for basic information of the interviewees and knowing the borrowing habit of the passive user. Part 2 are seven detailed questions to understand their experience of the service encounter:

- Do you think you get enough information before you choose the book to borrow, and by which means you get the information?
- Do you clearly know, or are you informed of the book name, author, shelf position, the way to find a book, or other information before you pick up your book?
- How do you feel about the staff's guidance and instructions to you, do you clearly know which steps you are in the whole service?
- How do you like the staff's serving in general? Do you feel

comfortable when talking with them or listening?

- What did you think about the system of Helmet and check-out machine, are they easy to use for you and helpful?
- What are the biggest obstacles for you to get a book in this service?
- At which moments of the service, you feel passive or embarrassed? And tell anything that makes you uncomfortable.

These questions aim to capture passive users' experience among different moments when they were trying to interact with the information system indirectly with active users' mediating. The research is not to evaluate the customer experience in general, so, the difficulty is the angles to ask since the passive users have no control of the system, their experience was built on the active users' reaction to the system.

At part 1 of interview questions for active users, their daily working routine is asked besides their profiles. The active users, or employees, are the stakeholders whose experience is rarely known to the public so that it is hard to understand them by empathy. Hence, nine questions were listed in part 2:

- How do you serve customers usually if they want a book? How do you start your service? Would you give some recommendations of books for customers?
- Do you feel stressed when introducing or explaining the information on books to customers? If yes, what challenges you?
- Do you think it is easy to make customers understand quickly of current information of books, in turn, to make a choice confidently?
- How do you ensure providing a high-quality or comfortable service to customers, and what are the obstacles for you to achieve high customer satisfaction? (i.e., exhaustion, repetition, complexity, language issue, long queue)
- Would you instruct customers how to use the check-out machine, if so, when? And is it easy to guide?
- What would you usually do on your computer when serving your customers?
- How do you like the system of Helmet? Is it easy to learn and use to serve your customers?
- In which parts of the system you think should be improved so that it is easy to use or helps you offer a high-quality service?
- At which moments of the whole process of serving customers, do you feel embarrassed, or it is hard to make the customers understand? And tell anything that makes you uncomfortable.

Nine questions seem too many for an interview, but this research tries to know the passive users from the active users' perspective besides just knowing their experience. Besides, as principal users of the system,

the active users are not cold machines whose performance is always in the same quality. The methods and system they use, physical factors, and even environmental factors indeed affect their performance of serving, in turn, affect the passive user experience. Therefore, some questions irrelevant to the system are proposed.

UX curve and Semi-Structured Interviews are two primary user study methods for this study, so the experienced interviewees are most appropriate. However, it is not promised that all recruited interviewees are experienced with good memories. Some tasks, designed beforehand, would be given to the interviewee if she/he had little or forgot the experiences. The two methods would be conducted as a combination. The UX curve goes firstly for twenty minutes to engage the interviewees, and then the interviews which would take approximately thirty minutes.

### 6.3 Participants

As the feature of user study methods, the experienced users of Oodi's service encounters are preferred as the participants to study passive users and full-time employees for studying active users. When I contacted the Oodi for permission to study the service encounters there, I was promised that two employees would join my research by the way. The obstacle for recruiting is the channels to reach passives users since it would be rude if asking someone to join if they are reading and borrowing. So, the recruitment was conducted and done by social media (i.e., posts on Facebook), posters, and email with a general introduction to research's topic and participating awards of one movie ticket.

The situation did not always go well, the disadvantage of recruitment channels, especially the posters, is the poor ability to spread the research recruitment to most of the customers, and the most efficient way - recruiting customers in Oodi, was also limited because of the rules of the library. Finally, replies from Facebook and email were received, and a group of customers was recruited via these two channels. Later, appointments with interviewees were made, and the second floor of Oodi was chosen as the site of research conducting since it is an open site and appropriate for talking. In total, six customers and one employee joined the research, and both the UX curve and interviews were taken individually. The age of participants ranges from 25 to 40, and the gender is four males and two females of passive users and one female of the active user. The number of participants resulted in the necessity of high-quality research sessions with interviewees to uncover their user stories.

### 6.4 Session Procedure

The main content of sessions with customers is to run two user study methods of UX curve and semi-structured interviews smoothly and seamlessly by aiming to evoke customers' previous experience and stories in

service encounters. For the active user, only the interview is involved in the session. The aim, and also the challenge is how to inspire the active user to give detailed answers when she is confronted with a massive task consisting of more than nine questions. The principles of holding the sessions are to simplify the introductions and questions as much as possible by using short sentences even if some questions are supposed to be complicated and to communicate by using customers' and employee's languages like simpler terms and expressions.

### *1. Preparation*

Offering an excellent service to every participant is also one of the objectives of this thesis. Before the session, all possible materials have been sorted out. Consent forms, curve drawing templates, emojis, and sessions plan with interview questions have all been printed out. The schedule of sessions is made by just taking two sessions in the afternoon on a single day to make sure both the participants and myself are full of energy. With the sessions situated on the second floor of Oodi, both customers and employees could be staying in the setting of their daily routine in the library. Besides, the duration of fifty minutes has been promised to all participants, so, to make sure the right point in the timeline for each step, I went through the session plan with all steps by myself as a pilot. Moreover, the documentary methods are notes taking as participants are talking and photograph taking if they agree.

### *2. Engaging participants*

The sessions were taken individually. When meeting up with customer participants, I gave a short explanation for my research topic and guided them to read and sign the consent form after welcome greetings and introductions to each other. The next step started with asking them how they usually borrowed books in Oodi and how many times they asked employees on books. Most of the customers had quite much experience both in borrowing and service encounters. However, two of them had experience in borrowing, but little in service encounters, and they were asked to do the task of asking the information on one particular book, checking out if it is available, and asking how to get it at the info desk on the third floor just by themselves. Besides their experience, two more questions on their habits of borrowing and reading were asked as the end.

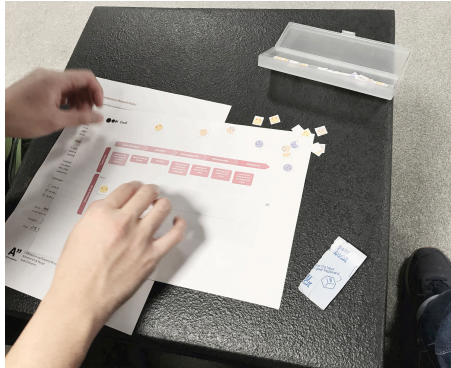
With the same first step as customers, the engaging employee was then to asked the employee the years of working in Oodi, the number of customers to visit the info desks and what mainly they ask about, and the procedures of serving customers.

These steps aim to help participants recall their previous experiences in memory and also to understand the participants quickly.

### *3. UX curve*

The UX curve drawing aims to measure the passive user experience, so it is only taken on the customers. The customers were guided to read the passive user journey above the drawing template firstly. Next, they were asked if there were differences between this journey and their own previous scenarios in service encounters, and the customers who mentioned the differences were asked to modify the journey accordingly.

In the following step, the curve drawing template and five emojis were introduced to customers. The customers were asked to select and stick one emoji on the curve drawing template under activities of the passive user journey and explain why they were in that mood at the moment. Customers mostly had particular moods in the middle and end parts of the journey when they got the responses from employees. However, at the start of the journey, most likely, they have no feelings for the services. Because of limited time, I did not ask customers to draw and connect these emojis since curves were already there once the mood nodes were created.



*Figure 14. One participant is taking UX curves drawing.  
Source: Author.*

#### 4. Interviews

The semi-structured interviews were challenging tasks for me since I had to take notes when they were talking, and at the same time, to think about was the next question on the session plan appropriate to ask.

The interviews with customers started with the first two questions on the session plan. The questions aimed to find out if the customers received sufficient information on books borrowing from employees in service encounters. Two customers mentioned their individual experiences of borrowing CDs, and one of them was not aware of the asking for the disc at the info desks. The customers were then asked about the quality of employees' guidance and employees' performance of serving. The employees' expressions on the face, expertise, the tone of talking and

attitudes were proposed and evaluated by customers. The next question was for who had the experience of interacting with Helmet online or by employees' showing their screens in service encounters. Little comments were given, even if some of them were positive. As usual, I asked two open questions to customers in the end about obstacles to getting books and moments that made them passive or uncomfortable. Customers performed more active and share more stories and pain points, such as the availability of books, long waiting time, shelf position.

The interview with the employee took a longer time than customers' since I had little knowledge of their daily work from their perspectives. The interview started with the procedures of serving customers. Accordingly, the following questions on the ease or complexity of making customers understand information, the skills to satisfy customers, and aspects of affecting their performance were asked. The next three questions aimed to evaluate the Helmet system from employees' views. However, the employee just gave some positive feedback. To end the interview, I asked the last open question where the employee could say anything that made her uncomfortable, and the employee shared one moment when they got the complaints from customers because customers cannot find the books that they have reserved. During this moment, the employee felt powerless to give one precise reason or explanation besides making another reservation for them.

## 6.5 Results

The main features and borrowing habits of customers were captured by engaging participants. The characteristics of customers group are aging from 25 to 40 years old and being able to access and utilize the digital devices (online Helmet). The two routines of customers getting books are searching on Helmet firstly, then asking staff to get the books and just looking for books by themselves. Most of the customers already know which books to borrow before visiting Oodi, one customer mentioned he knew the books to borrow by the app Goodreads and media outside of Oodi. However, another customer said he would also have a look at popular and recommended books in Oodi to get some inspirations.

In the UX curve part of sessions, six curves were collected, and customers would like to explain, particularly when they were not quite sure of which emojis to pick for several activities. For example, almost all customers stuck no-felling emoji under the activities of "being informed to wait" and "waiting" by explaining they did not have a special feeling when waiting, or just felt embarrassed. So, the first part of the curve is occupied with no-feeling moods under the first three activities, even with several happy moods at the start. The curve sees a rise when the customers got some responses from employees at the fourth activity. However, still, half of the customers selected no-feelings. Making decisions on a book seems a happy moment. However, that is the activity where the curve sees the most significant differences. A happy emoji and an excited emoji were selected

here, but it is not because the two customers got the answers or books they wanted. By understanding their explanation in this activity, I find the two have a similar characteristic. That is, both of them have been guided with employees' accompany to the shelves no matter if there were the books they wanted. Being served carefully is the key reason for their positive moods. Half of the customers had no feelings when making decisions; one of them explained she did not get the book even the employee was patient. The other two customers complained they have to wait for a long time for some books, and even when they got the books, they could only take them for a few weeks. The last part of the curve shows a rise in the last two activities of the passive journey; however, one customer mentioned she still cannot find the shelf even the employee told her how to go.

Most of the customers followed the provided passive user journey. One participant added "the staff accompanied me to the location or shelves of the book" to the activity of "listening out for shelves' location & keeping it in mind." Another participant edited "making the decision on books" based on the availability of the books.

In the session of semi-structured interviews, the customers' profile was classified by two usages of the service encounters. Some customers would like to search books online and then asked employees on the availability of books in Oodi; Other customers usually would not ask, but they still need the service encounters when the problems could not be figured out, such as failing to find books and asking for new editions of books. The customers were offered clear information from the employees, and sometimes they would be shown the shelves' location with employees' accompany. Most of the customers thought employees' guidance is helpful. "Friendly" is the keyword for employees' serving in general. However, some participants said that sometimes employees are rude, and not every employee had expressions on the face when talking. When asking customers about the system Helmet, I got little feedback and explanation. Two participants mentioned the website interface of Helmet was bad when they were searching for books online by themselves, and sometimes the employees would show their screens to customers on the info desks.

Quite many comments and scenarios were shared by customers when I asked them the obstacles to get a book and the moments that made them embarrassed. The obstacles for the first customer are sometimes only the eBooks were available, but he preferred physical books, and new books were always being taken so that he had to wait for a long time just for taking it for a little while of reading. He felt embarrassed when he forgot to return the books to such a big library. The second customer was worried that the employees wouldn't answer him in patience, and there would be something uncertain when asking. So, the waiting was the most embarrassing moment for him since he was worried that nothing could be found, and that moment was a "freezing silence." The third customer felt the location of shelves confused her, and she thought the employee was not so willing to talk. Similarly, the shelves' information also confused the next customer. She could not find the book she ordered so that she had to ask



the employee to find it for her. One embarrassing moment was when she returned books, she was afraid the machine didn't detect the books, and she felt nervous when using the check machine. Another passive moment for her was she wasn't informed by the employee that the books could be reserved online when she got her library card. The fifth customer had quite much experience in Oodi, he complained when he reserved a book online, it never appeared on shelves, and sometimes he had to wait for a book for a long time. The customer further explained the ways to search books online and find books in the library should be improved since online searching with physical products was not well-connected. He summarized the input and processing of the services were good, but the output was not good. Moreover, the customer added one embarrassing moment when he borrowed a PS4 game, but there was no disc inside of the CD box, and the customer wasn't aware of or told by employees that he should go to the info desk for the disc. Finally, the last customer said the employees' unwelcoming expressions made him feel passive.

The employee has worked as the librarian for more than three years, and now she was one of the employees who served a considerable number of tourists every day in Oodi. From her perspective, the customers at the info desks usually asked about some books and how to find books; The customers would also ask if the books were available. If not, she would make reservations for them if they wanted. The main tasks in the services for employees were searching and explaining. And employees would show the screens to customers when it was hard to explain, especially the elderly, since they were not so familiar with the Helmet. The employees were seldom being asked for recommendations of books. After talking about her basic routine of work, the employee shared her methods to satisfy customers, that was always thinking at the customers' point of view and trying to find solutions for customers. When asking about several aspects that affected employee experience, I was told the long queue of customers had no effect, but the library arranged employees to stay at one service point for only two hours to mitigate the physical effects of long-time exhaustion and repetition. As the principal user of the systems, the employee thought the systems were useful, especially the Helmet. In fact, there were two systems that shared the same information system for employees to use in Oodi. The inside one shown more detailed information on books. Another system helmet was open for all people, and it was the one used to show to the customers during the explanation. Surprisingly, the embarrassing moment of the employee matched with the ones of customers. The moment for the employee was when the customers had made a reservation, but they could not find the books on shelves. So, customers were unhappy and asked employees even if there were quite many reasons behind that. And the only solution was to make another reservation for customers and put them at the top of the list.

In total, seven sessions were held with six UX curve drawings and seven semi-structured interviews. The passive user journey has been supplemented with their diverse personal scenarios, such as the accompany

of employees. Quite many user stories and insights have been collected from the interviews. However, not all of them are valuable for further analysis since the study put its sights into the exact slices of moments in service encounters where customers interact with the system via employees, but not the evaluation of the whole service of borrowing. For example, customers' confusion of shelves' location is one origin of the service encounters, and the bookshelf is one parallel element with the system in the whole service. So, it is necessary to understand which stories or insights are relevant to the passive user experience during analysis.

## CHAPTER 7

**ANALYSIS**

In this chapter, the UX curves are analyzed by categorizing them as their trends. The reasons behind the similarities and differences of the curve trends are explicated holistically. Based on the results of the semi-structured interview in the last chapter, the pain points of the passive user are summarized. With the data analysis, the aspects that influence the passive user experience and active user experience are proposed to answer the second research question of the thesis.

## 7.1 UX Curves Analysis

Researchers with service design thinking are accustomed to summarizing one conceptual experience curve for their persona and mapping the corresponding pain points under each activity on the curve; the trends of curves are rarely analyzed. Since customers were asked to verbally elaborate their moods while selecting emojis, and later a series of customers' scenarios and insights were conveyed in qualitative interviews, this makes it easier for the study to understand the underlying causes behind the curve trends. The analysis of collected six curve forms would follow the model by Kujala et al. in the procedures of data analysis.

### 1. Categorizing curves

The six curve forms were categorized according to their trends into improving, deteriorating, and stable (Kujala et al., 2011, p. 477). The trend of the curve is determined by comparing if its starting point is higher or lower than the ending point (Kujala et al., 2011, p. 478). In qualitative research, selecting emojis has made the starting points and ending points of curves clearer than only freehand drawing. So, if the starting point of the curve is lower than its ending point, the curve is in an improving trend. In turn, the curves are in stable and deteriorating trends if their starting points are lower than ending points or they are at the same level. Five moods have raised the complexity of categorizing curves' trends, so "happy" and "excited" as positive moods, "unhappy" and "disappointed" as negative moods are seen at the same level, respectively.

According to these criteria, six curves have been mapped into two forms (see figure 15 & 16), so that the general trends of improving and stable are apparent to see, besides the curve of the second customer in the form of improving UX curves, which has sharp rises and falls compared with the first and fourth customers' curves. The form of improving curves shows a typical improving experience in service encounters, where customers' moods start with negative or no feeling in the first three activities and get an improvement in the following activities of information offering. Customers sometimes would have positive expectations for the service procedures and outcome, and it always challenges front-line employees in avoiding disappointing them. In the form of stable and deteriorating curves, two falls in the middle have interrupted customers' enjoyable experience, even if the starting points and ending points are considerably high.

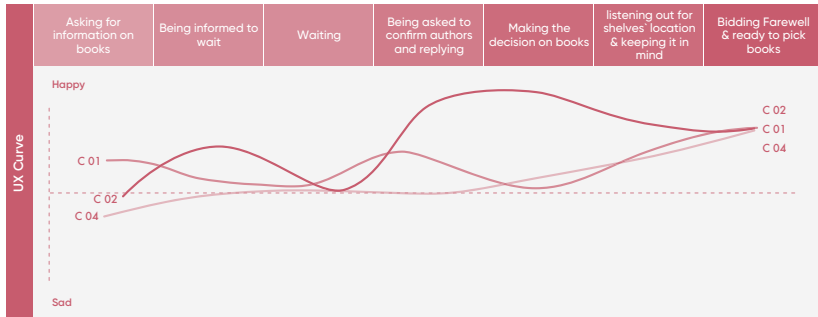


Figure 15. The improving UX curves form with the customer number.  
Source: Author.

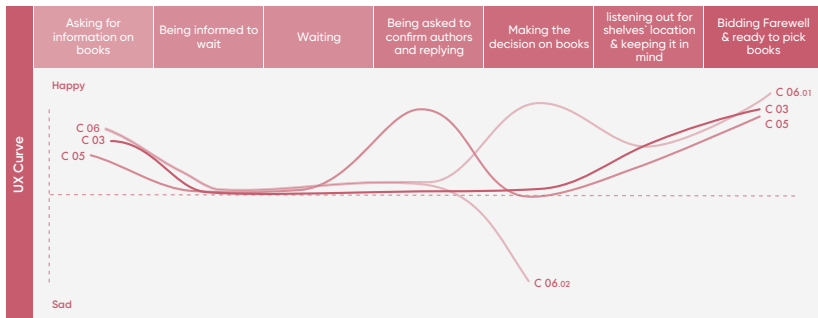


Figure 16. The stable and deteriorating UX curves form with the customer number.  
Source: Author.

## 2. Trends of the curves

The statistical table shows the number of three trends of curves, nearly half of curves are in improving trends, and another half are in stable trends, one more deteriorating curve shows here since the sixth customer drew two curves on the template (see figure 17). The three curves in stable trends fluctuate at a similar rate, which indicates the similar underlying reasons at their falls in activities of “being informed to wait,” “waiting” and “making the decision on books.” The curves in improving trends show a stronger difference. However, two slight overlapping falls could be seen in “waiting” and “making the decision on books.” The difference within improving UX curves is also understandable since the notable fluctuations in the curve of the second customer imply his strong sensitivity to employee’s responses, in turn, to influence his experience closely.

UX Curve	Improving	Stable	Deteriorating
	3	3	1

Figure 17. The table of UX Curves trends.  
Source: Author.

3. Reasons for the changing curves

Even if the computer program could be more precise in curve analysis and synthesis, the UX curve analysis method indeed helps to keep the sights into the two representative passive user experience by simple categorization. All customers gave positive feedbacks to employees' guidance by selecting almost the same emojis under two activities at the end of the journey, but the starting points of improving UX curves are comparatively lower than those stable. One reason is that some customers were in the personality or custom of being unwilling to initiate the conversation, so they have no feelings or feel embarrassed when asked. Another typical reason is customers were unhappy when they failed to find the books they reserved or got confused about the shelves' location, so they had to ask for help, and that resulted in improving passive user experience in such a problem-solving service encounter. The similar falls under "waiting" in two forms implicate the common embarrassing moment in service encounters when customers wait for employees' searching or processing. It is a blank in the experience where customers' attention is rarely cared for or guided. Most of the curves in two forms have a rise under the activity of "being asked to confirm authors and replying," one reason is the customers' instant gratification in information acquisition as a short outcome of waiting, and another one is the employees' professionalism and skills to offer and explain the information. Under the activity of "making the decision on books," more than half of all curves see a fall or keep at a low position. By matching their user stories and insights with curves, I find the falls or low positions of curves here are associated with their unsuccessful and unpleasant borrowings in service encounters, which means most of the customers linked their outcomes of services to this activity. Apparently, the outcomes of the whole lending services are not involved in the passive user journey, but the inconsistent facts are why the outcomes of services affect the passive user experience. One moment that could not be ignored is that when the availability of books was told to customers by employees before customers made the decisions. It was the moment when customers were guided to the shelves but could not find the books and were told that the books should be here around the shelves. It was the moment when customers were told that the books were taken, and they had to wait. Moreover, it was the moment when customers have made the reservations online, but books disappeared on the shelves, and no clear reasons were given by employees except for the help of making the reservations again. In short, the non-instant acquisition of books resulted in awkward passive user experience, in turn, resulted in deteriorating customer experience on

the services’ outcomes.

In literature, customers are defined as passive users since the limitation of control of the system, but in this study, the system is found not to be isolated, it is associated with the physical products. Customers rely on the system for product information, and if the physical products do not live up to customers’ expectations, the customers would be skeptical about the system, and in turn, to confirm the product information again on the system via employees. Furthermore, that results in more passive user journeys for customers. Moreover, the customers of Oodi could interact with the system online directly by themselves, but they still have to ask the employees in many circumstances even the employees would use the same system Helmet to search for them, but not the internal system. One part of the reason is the online system with physical products is not well-matched, and the core of the reason is the customers are under the limitation of understanding the system. As the curves’ trends and the reasons behind are analyzed, the characteristics of passive users are summarized. Passive users are the ones who are eager to access the system but have limited control and understanding of the system.

7.2 Pain Points of the Passive User

Nine pain points of customers are summarized by analyzing UX Curve and interviews. However, these pain points should be classified since, even if the user study methods have tried to keep customers’ sight on the service encounters, customers still shared several pain points of the service that are irrelevant to the passive user experience. Therefore, the pain points are categorized into three groups by the different degrees of relevance to passive user experience, as pain points in the passive user journey, pain points to cause the passive user journey and other pain points of services (see figure 18).

	Pain points in the passive user journey	Pain points to cause the passive user journey	Other pain points of services
Pain points	Customers could not get the books instantly	The books that customers reserved are missing on the shelves	Customers have to wait for a long time for some books
	Customers would feel embarrassed when waiting for employees’ searching	Customers are confused by the shelves location and cannot find the books	Only eBooks are available
	Employees’ expressions are sometimes unwelcoming	New customers are not reminded beforehand about rules of borrowing or possible mistakes	
	The interface of system is not user-friendly		

Figure 18. The table of pain points of the passive user.  
Source: Author.

As one characteristic of the system, its non-isolation to physical products has increased the complexity to analyze the influencing aspects of passive user experience, and the three pain points to cause the passive user journey in the table prove this view. "The books that customers reserved are missing on the shelves" and "customers are confused by the shelves location and cannot find the books" result in the service's failures to deliver the products to customers at the final part of the customer journey. Instead, they cause additional passive user journey for customers, in turn, increase the workload of the employees. The insufficient guides to different customer groups increase the possibility of new customers, foreigners, and the elderly making mistakes. Even if the library is somehow tolerant of mistakes, it certainly makes customers confused and embarrassed and increases employees' workload to help.

The ward round has been a typical case to study passive users and was utilized by Alsos and Svanæs (2011) in their research as well. The deficiency of case categories means the previous studies on passive user experience principally focused on the influencing aspects during the moments of service encounters but ignored the aspects of trapping customers in troubles that could result in more service encounters, in turn, more passive user experience. However, the pain points to cause the passive user journey should be significantly concerned. These pain points lead customers to an additional passive user journey, increase the employees' workload, and even result in a heavy load to the system. In a word, they have negative effects on all three actors of service encounters. So, besides the four pain points in the passive user journey, the study also emphasizes the fact that the three pain points to cause the passive user journey gave a new perspective to study passive users.

### 7.3 Aspects Influencing Passive User Experience

The reasons behind the trends of UX curves and pain points are further summarized to answer the second research question of this study. For the passive user experience, the influencing aspects are the service outcome, system feedback and transparency, waiting, encouragement, customer characteristics, GUI, and physical layout of products.

#### *Service outcome*

Technology has accelerated the pace of life, also the speed of service delivery. Meanwhile, customers enjoy the instant gratification once they pay the cost or take some time. The non-instant acquisition and failed acquisition of products indeed lead to a disappointing service outcome for customers. In Oodi, disappointing outcomes appear when customers have to wait for a long time for their books, and when they find the books that they reserved on the system are missing from the shelves. Another example is JD Sport, customers would be guided and helped to order their products via online system in the shop if there is no right size of the products, but



they have to wait for at least eight days for the delivery. The procedure of consumption has been prolonged, in turn, happiness when getting products declines.

### *System feedback and transparency*

An understandable system should give customers feedback when customers encounter a problem or remind them beforehand. The examples are three pain points to cause the passive user journey. At the same time, giving passive users more control over the system could enhance the passive user experience. Meanwhile, the information system should be more transparent to passive users. In other words, more introduction or information of service should be offered via the system. Otherwise, customers still have to ask employees even if they could interact with the system directly, just like what happens in Oodi.

### *Waiting*

Passive users' attention is not specially guided when they wait for employees' searching, which would make passive users embarrassed because of the silence, especially those sensitive. This moment occurs widely in most of the service encounters. In some other service encounters, brochures or advertisements on desks may decrease the awkwardness, but they are apparently not designed for that purpose.

### *Encouragement*

Encouragement seems like a small detail during service delivery, but it could be the factor that makes customers disappointed with the whole service. Customers are usually sensitive about employees' expressions and tones when talking. A friendly atmosphere will encourage customers to communicate, which benefits the efficiency of information delivery. As was known from the employee, communication usually starts with the customers' asking. So, customers also need to be encouraged to initiate communication at the start of service encounters. For the companies, the welcoming expressions and friendly tones will not only enhance the passive user experience but also retain the customers.

Besides the employees, the facilities of service encounters are also essential for encouragement. Oodi shows a good example. The info desks are arranged in a circle and at a proper height. The well-designed facilities lead to highly open service encounters, which make customers feel they are always welcome to ask questions. Also, the flexibility of turning the screen enables the way to offer information via the visual display in service encounters.

### *Customer characteristics*

In service design, customer typology is one method to understand the customer groups of the service. With more attention to the characteristics

of different customer groups, Oodi can guide new customers and foreigners to avoid trapping in problems since their lack of understanding of library rules. A good service should take the new customers, foreigners, the elderly, and those disabled into consideration to make sure they have equal accessibility to the information system and rules of the service.

## GUI

The web system Helmet provides online services to customers and is also used by employees for searching. However, the abilities of customers and employees to understand the interface are different since employees are professional and familiar with the system. So, when companies provide devices or webs to passive users, the user interface should be user-friendly, and information should be presented with simpler terms.

## *The physical layout of products*

The products of Oodi are mainly books, and customers browse around the shelves for their books. Different services deliver products in different ways, which means the physical layout of products is not a necessity for all the services. For the services which involve the physical layout of products, a clear layout enhances customer experience and reduces unnecessary service encounters.

## 7.4 Aspects Influencing Active User Experience

Active user experience refers to the temporary employee experience in service encounters for front-line employees. In Oodi, a considerable number of visitors challenge the front-line employees, also their active user experience. The analysis here gets limited to the number of employee participants, and three influencing aspects of active user experience are summarized from the interview.

### *Technology*

Employees were embarrassed for not being able to give a clear explanation and a satisfying solution to customers when customers find the books that they reserved missing. Therefore, the service should be supported by powerful technology to make sure the web system is well-connected with the physical products and changes dynamically with physical products. That would not enhance the active user experience directly, but at least reduce the moments when employees feel powerless.

### *Exhaustion*

Exhaustion and repetition are two physical and psychological influencing aspects for front-line employees. The excellent strategy of Oodi is that employees are on rotations of different service points by two hours.

### *System usability*

The system was thought useful to employees, but it is the feedback for system utility. The system with good usability could improve employees' efficiency of searching and offer sufficient information for employees to solve problems.

## CHAPTER 8

# METHODOLOGY TO STUDY PASSIVE USER

The chapter reports the recommendations of methodology to study the passive user. The particular challenges of selecting cases and recruiting both customers and employees are highlighted. Meanwhile, the recommendations for identifying the dynamic passive user journey and conducting the user study methods are proposed.

## 8.1 Challenges of Selecting Cases and Recruiting Participants

The case study is the base of understanding the influencing aspects of the passive user experience. Multiple case studies would help researchers understand the passive users from various perspectives, and more permission from the authorities means the possibility for researchers to evaluate the system. However, an inescapable fact is that service encounters are in a wide variety from different industries like health care, education, entertainment, food, and daily necessities. Meanwhile, service encounters are different from business service and public service. Therefore, the initial challenge for the research is the selection of cases. For researchers who study passive user, two questions should be concerned in case selection: which case could stand for a typical traditional face-to-face service encounter to study passive users, and how many cases should be studied from one or multiple industries so that researchers can compare and summarize their data. Another uncertain factor about the case is getting permission from the authorities. Honestly, this study planned to study three cases as the different degrees of passive users' control over the system: Oodi, McDonald's, and Espresso house, but failed in getting permission from the other two companies. So, if possible, researches should collaborate with the organizations.

Another challenge is recruiting participants of both customers and employees. Recruiting experienced customers is a guarantee of high-quality data. When recruiting customers, researchers could use several common methods of recruitment, such as email, poster, and social media, and if customers have joined a community, contacting the community would be efficient. As the active user of the system, employees are essential actors for the user study. Customer usage and characteristics could be found from the employees' perspective. Besides, the active user experience is not isolated from the passive user experience. An efficient and positive active user experience will lead to a more positive passive user experience to some extent. The only rational way for researchers to recruit employees is to ask the manager of the customer experience team to share the recruitment information.

## 8.2 Identifying Dynamic Passive User Journey

The customer journey is a universal method in service design and refers to the customer's entire journey in the service with several stages. The passive user journey mainly refers to the customer's short journey in the service encounter, which is one touchpoint of the customer journey. So, the relationship between the customer journey and passive user journey could be explained by the difference between macro and micro. Accordingly, additional challenges arise from focusing on the passive user journey. The biggest challenge is that the customers' activities in service encounters are hard to conceptualize since their randomness and subtlety. Therefore, the illustration of the passive user journey of Oodi is an initial exploration by

listing all possible activities.

Based on the case study of Oodi, this thesis proposes three recommendations for mapping the passive user journey. First, the passive user journey should involve customers' activities in service encounters as many as possible. Customers' activities are unpredictable and complicated in the service encounter. According to the interview with the employee of Oodi, the format of the service encounter is normal conversation. In other words, there are no standard steps in the passive user journey. However, the mainstream of the journey should be highlighted by listing its activities on the top. Another recommendation is that the passive user journey should also involve the other two actors of traditional face-to-face service encounters: the system and active user. Besides, activities of the system and the active user that interact with the ones of the passive user should also be listed. In turn, the service encounter is unfolded by showing the interactions between its three actors at the front stage and backstage. The last recommendation is that the journey should be mapped in advance. Mapping an explicit passive user journey is not the main objective of the user study, but the influencing aspects of passive user experience. It is a great way to develop a basic understanding of passive users, so mapping the journey in advance enables researchers to pay all their attention to customers' stories and pains in the user study. Meanwhile, the journey will be used in the UX curve drawing template.

### 8.3 Collaborative Methods to Collect Experiential Data

The methodology of this study consists of mapping the passive user journey as early research, the UX curve and the semi-structured interview as the cores of the user study. The previous section emphasizes mapping the passive user journey as a leading role in early research.

However, the UX curve method could probably be questioned by other researchers since it looks similar to the emotion curve in the customer journey of service design. The critical difference is that the UX curve method is for collecting user's experiential data individually, but the emotion curve is usually created via the summaries of all user stories and their pains. The procedures of asking participants to draw could be designed in different ways, and in this study, the passive user journey is used as a guide, and offering five emojis to select makes it easier for customers to reflect on their feelings than an empty template. The core of curve drawing is asking participants to explain the reasons behind their feelings and the changes in feelings. Besides, if the participants are not experienced customers, asking them to take small tasks before drawing the UX curve would help, and it is the reason why the test location of this study is set in Oodi. The analysis method of the UX curve should also be concerned. This study analyzes the curves by categorizing them according to their trends and explaining the reasons for the similarities and differences between these categories. The UX curve method in this study follows the study by Kujala et al. (2011) in the UX curve validating and analyzing, and their study is recommended to

read as a reference to use the UX curve method.

The semi-structured interview is not isolated from the UX curve method, some customer stories could be shared during the curve drawing, so it is necessary for researchers to make changes to skip some questions or ask further based on their stories. Besides the skills of conducting the interview, the documentation of participants' words is needed, like notes taking or voice recording. Analyzing the interview data is a challenge since one fact cannot be ignored. That is not all customers' pain points are relevant to the passive user experience. Considering that, it is recommended to categorize the pain points into various groups according to the degree of their relevance to the passive user experience.

With the collaborative methods, the study can get the influencing aspects of passive users from various perspectives both by analyzing the trends of UX curves statistically and summarizing customers' pain points holistically. The collaborative methods in this study are just an initial exploration in the methodology of study passive users, and to some extent, the selection of methods depends on researchers' personal experience and judgments. In a word, more studies are needed to find the appropriate methodology.

CHAPTER 9

## CONCLUSION AND FUTURE RESEARCH

The main objective of the study is to reveal the service encounter from the passive user's perspective by analyzing the influencing aspects of the passive user experience and offering proposals to design an appealing passive user experience. In the literature review and test plan of the thesis, the employee, as the active user of the system, is a vital actor since the employee experience has been valued in recent years, and excellent active user experience can lead to positive passive user experience. However, only several influencing aspects of the active user experience are proposed in the study since the limitation of the user study to the employee.



## 9.1 Research Conclusions

The study extensively introduces the relevant notions of the service and the definition of passive users in the literature review. The case study starts with introducing and mapping the passive user journey, and the collaborative methods further enable the case study to reveal and evaluate the subtle passive user experience in the service encounter of the lending service in Oodi.

Essentially, the notion of the passive user is proposed and exists due to the customers' powerlessness when getting information from the system, and those customers' awkward moments occur commonly in the service encounters. To answer the first research question, the study, based on the data analysis, summarizes three impacts of computer systems used by frontline employees on the passive user experience below.

First, passive users have limited control over the system. Companies nowadays would like to design digital terminals or online websites to customers in service delivery in order to enhance the customer experience and reduce the workload of frontline employees under the irresistible trend of digitalization. That strategy enables passive users to interact with the system directly rather than totally rely on active users' interpretation. Nevertheless, for those services that include a physical base, the utility of the online system decreases when customers visit the physical base since it cannot solve customers' real-time problems and give customers appropriate solutions correspondingly. On the contrary, the service encounter is an easier way for customers to get quick information and solutions via the frontline employees' operation. Giving passive users control by digital terminals or online websites could improve the passive user experience to some extent, but it is far from enough to eradicate the symptoms of customers' limited control over the system.

Another impact is that passive users are under the limitation of understanding the system. The frontline employees search and explain by using the system every day, and they are more familiar with the system than customers. Therefore, for those companies who design the terminals both for the customers and employees, the focus of the two terminals' usability should be different. For example, terminals or websites for customers should be straightforward with instant feedback and guidance, while the terminals for employees should be powerful with quick access to the main functions. However, not many companies could make that difference, and usually, the terminals and websites of customers and frontline employees are developed from the same platform. The indications of the fact are that customers cannot get instant feedback when encountering problems and guidance when using, and that the GUI could be stuffy and the using language is not in customers' tone. All the indications are certainly hampering customers' understanding of the system.

The third impact is that the information system is not transparent enough. If the previous impact is about system usability, this impact is for the system utility. Frontline employees are usually regarded as

knowledgeable, and they are another indispensable source for customers to get information besides the system. However, that part of the information usually cannot be found on the customers' terminals or websites.

Meanwhile, without sufficient introduction, customers sometimes have to ask employees to interpret the information for them. Besides the information on the system, the transparency of the information of products also counts. The system should offer more information and condition of products, for example, giving an estimated waiting time in the queue, offering the closest physical store, and giving passive users access to track the delivery.

The impacts of the system on the passive user experience are:

- Passive users have limited control over the system.
- Passive users are under the limitation of understanding the system.
- The information system is not transparent enough.

Also, with the data analysis, the study answers the second research question by summarizing eight influencing aspects of the passive user experience for those services that display products in physical stores: the service outcome, system feedback and transparency, waiting, encouragement, customer characteristics, GUI, the physical layout of products, and three influencing aspects of active user experience: technology, exhaustion, system usability. Finally, the recommendations on the methodology of studying passive users are discussed.

## 9.2 Proposals for Designing an Appealing Passive User Experience

Pleasing customers is always a necessary effort for the service supplier. Even though the companies invest much in improving the customer experience initially, customer satisfaction will decrease after a short term since customers are fickle (Wang, 2015, p. 8). That fact drives the companies to iterate their strategies constantly in improving customer experience and exploring further in new perspectives of improving the customer experience rather than only updating the technology. The passive user experience is such a new perspective that improving it can lead to a more positive overall customer experience. Based on the influencing aspects of the passive user experience, the study summarizes seven proposals for designing an appealing passive user experience to answer the third research question:

**Ensure the passive user positive service outcome.** Improving service efficiency and success in offering products to customers is essential since customers are addicted to instant gratification. Long waiting and any uncertain factors of getting the products will disappoint the passive user, in turn, fail in retaining the customers.

**Give system feedback and guidance to the passive user.** For the terminals and websites for the passive user, just putting the basic functions on the screen is far from excellent experience design. The interaction design

of the terminals and website should be straightforward and provide the passive user guidance so that even the new user can start using quickly, and provide the relevant feedback when the passive user encounters problems.

**Increase the transparency of the information system.** By providing more information and introduction of the service, A transparent system should enable the passive user to get most of the information about the service on their terminals and websites without employees' interpretation.

**Increase the connection between physical products and the system.** The passive users would feel disappointed when they find the products' condition in the physical store different from those that have been promised on the terminals and online websites, such as the availability and characteristics of the products.

**Encourage the passive user.** Some passive users are sensitive about initiating the conversation with the employees. They would wait and see whether employees are busy and welcoming. Therefore, the expressions and tones of employees are significantly important since they are the representatives of the organizations, the way they treat customers is equal to the way how the organizations do to a great extent. Besides, the moments of the passive user waiting for employees' processing should be concerned to make it less awkward for passive users.

The physical facilities should also be concerned for the encouragement. A high table with a glass wall definitely discourages the passive user from asking. Making the passive user comfortable in an equal and trusted atmosphere is essential. For example, the service encounter in the Apple store replaces the computer into an iPad and removes the desk so that the passive users and employees could stand side by side.

**Identify passive user characteristics.** Both the system and employee should identify the typology of the passive users and provide them corresponding information and guidance specifically, such as the elderly, foreigner, the disabled, and new users.

**Provide a user-friend GUI and use the passive user's language.** The user interface design of passive users' terminals and websites partially stands for the quality of the service. So, the user interface should be not only functional but also user-friendly. Besides, the information should be presented in passive users' language with simpler terms and an approachable tone.

### 9.3 Limitations and Future Work

The aspects that influence passive user experience could be a little different based on various case studies and researchers' different ways to conceptualize. The study tries to delineate the aspects as detailed as possible, and those pain points to cause the passive user journey are conceptualized as well.

Getting permissions from organizations is an exhausting struggle, which means the strategy of the case study has to be changed with the situation. The study is ambitious initially with the completed test plan of three cases of Oodi, Espresso house, and McDonald's. The levels of customers' control of the system are diverse in these three cases so that more explicit influencing aspects of the passive user experience could be found by summarizing and comparing the data of the three cases.

Six customers and one employee are somehow insufficient for getting much qualitative data, and the study tries to use collaborative methods for user study and analysis to remedy this disadvantage. Another limitation is that the system of Helmet and the internal one has not been evaluated, which makes the study more difficult to answer the first research question. And actually, the Helmet is the website for the passive user. However, it is regarded as useful and used by employees most of the time to search and explain for the passive users in the service encounter. Therefore, this study still sees employees as the active users of the Helmet in the service encounter.

Overcoming these limitations are the main tasks of future work. Besides, customer psychology should be included to explain the subtle customer activities and feelings in essence since the passive user journey is such a short moment that each captured slice cannot be explained accurately just with the knowledge of design. The methodology of studying the passive user should be explored continually, for those researchers who study alone, it is always the challenge to get quality raw data and analyze adequately with limited interviewees and individual energy.

### 9.4 Reflection

Understanding customers' sensitive experience is always my interest in my personal character. Rather than to give ambitious strategies for customer experience in general, I prefer to study customers' dynamic feelings in detail. And the passive user is the notion that could be used to evaluate the subtle customer experience in the service encounter.

I am so grateful for the supervision and assistance of my supervisor in finding the research topic, evaluating my test plan, optimizing the structure of this study, and sharing her patience. And each time when I share some complaints and depressing news, she is always the one to encourage me to go further from the current situation.

I appreciate the kindness of the director of Helsinki Central Library

Oodi and the manager of the customer experience team, who gave me permission to take a case study of Oodi. The Oodi is an excellent organization where customer experience is valued since its construction, and the info desks in its third floor are typical examples of the traditional face-to-face service encounter. The service in Oodi is remarkable, and choosing it as the case study is to explore what else the research can do for better customer experience. I have not expected the study could get seven influencing aspects of the passive user experience and corresponding proposals for designing an appealing passive user experience. Those results from data analysis make me excited since most of them are original, and I am satisfied with getting something new that could be referred or criticized in the later research of the passive user.

Looking back at the study, I am proud of every phone call, message, email, visit, and short conversation for getting permission from companies and recruiting participants I made. Even if the results are mostly negative, they indeed took me quite much energy and made me so passive to conduct my study. Meanwhile, the study took much time in the academic literature review, which makes me confident to define and study the passive user in the service encounter.

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## APPENDICES

### Appendix 1. Consent Form

#### Introduction to Research Project

The aim of this research project is to reveal underlying problems of customers and employees' experience in service encounters. And you are the expert who experiences getting or offering services everyday.

This research intends to receive and capture feedback to a task of getting or offering a specific service and interview questions related to the task. It is conducted by the master student, Lin Hou, as part of case studying for the his Master thesis within the programme of Collaborative and Industrial Design, Aalto University. You will get a brief introduction of this research, and be required to carry out a task of getting or offering service and share your feelings and experience about the service you get or offer by answering several questions. The whole processes would not take you so long time, and this research emphasises your experience and perception of the service offering. You could share your viewpoints and perception based on the task you would do or your pervious experiences of this service encounter or its alternatives.

#### Informed consent to participate in this research

I agree to participate in both the research task and interview. I have been informed that my words and opinions would be later cited, analysed and shown in this thesis and its final presentation. I have also been enabled to ask any questions about this research.

I understand that the participation in this research task and interview is entirely voluntary and I can withdraw my consent and discontinue participation in the research at any given moment before its completion. I am also aware of that the data collected up to withdrawal will be used as part of the research data. I give my consent to participation in this research.

**I give permission to this research** (please tick the items that you agree with):

- ☐ To be recorded on video or audio for the duration of the carrying out the task and interview.
- ☐ For the data collected in this research to be used in this thesis or its further study.
- ☐ For the data and media of this research to be included in my personal portfolio.

Name: \_\_\_\_\_  
(your name will not be used or shown in the thesis or its publication)

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

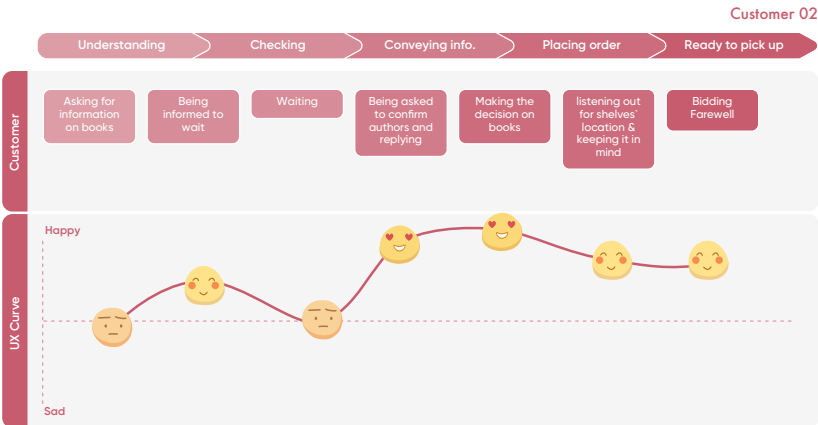
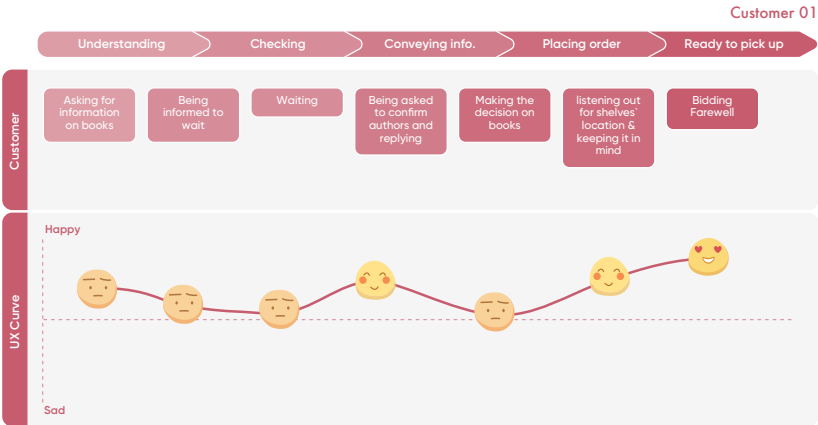


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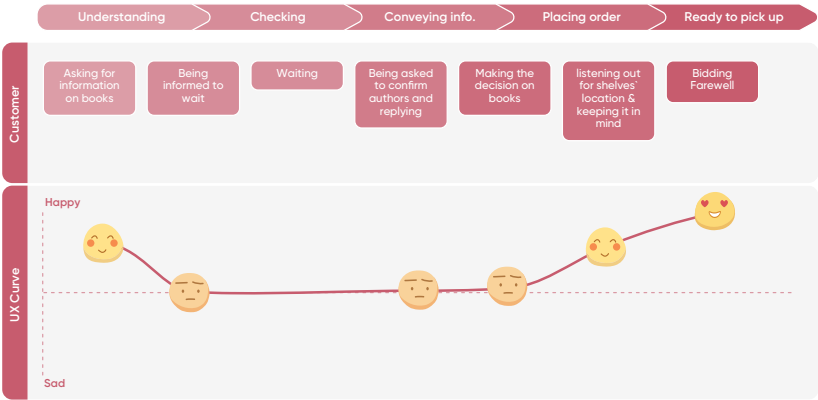


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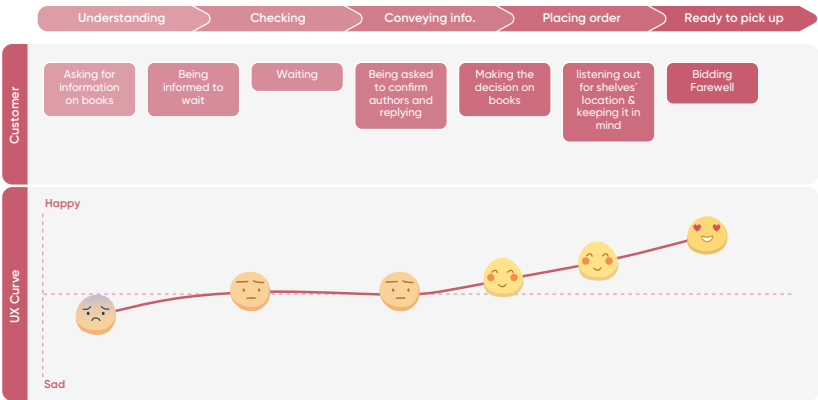
Appendix 2. UX Curves of six customers

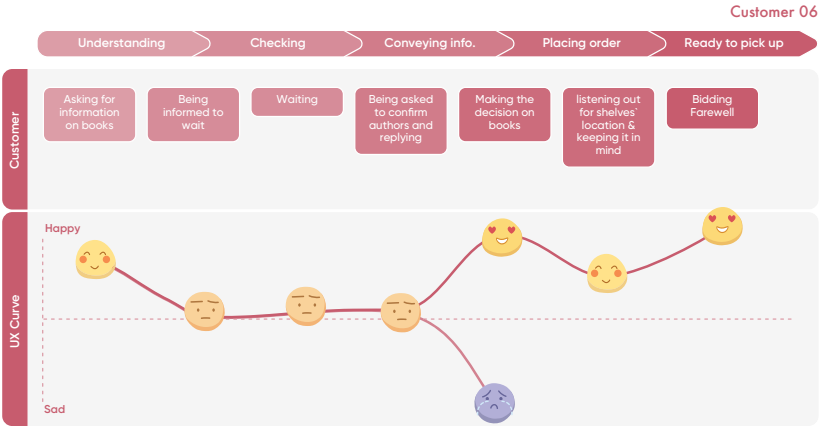
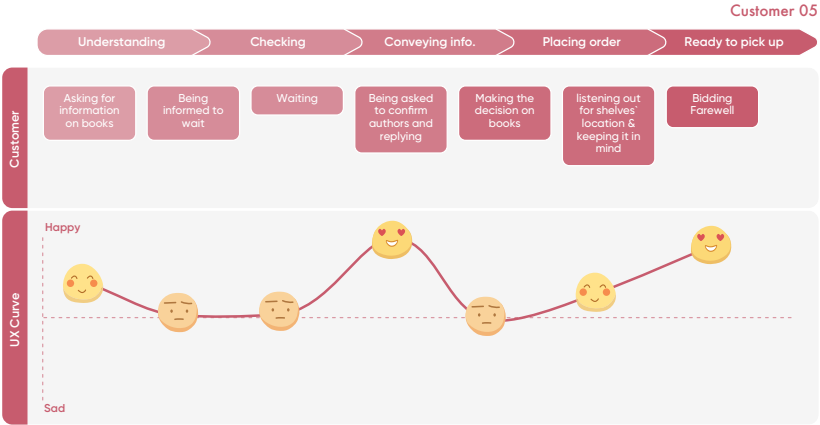


Customer 03



Customer 04











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